

Oxfam America
Research Backgrounders

Under Pressure:

Reducing disaster risk and
enhancing US emergency
response capacity in an era
of climate change

Marc J. Cohen, Kelly Hauser, Ellen Messer, and M. Cristina Tirado

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Oxfam America's Research Backgrounders

Series editor: Kimberly Pfeifer

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Executive summary

With disasters – and particularly climate-related disasters – on the rise, the global humanitarian response system is under increased pressure to assist growing numbers of people. The US government is the leading global player in this system. The US approach seeks to encompass a broad range of activities and allow humanitarian agencies flexibility in their missions and response. However, as a result, the myriad interconnected US agencies involved – civilian and sometimes military – are without clear leadership and mission, beholden to various legislative constraints, and focused more on disaster response than on proactive disaster risk reduction (DRR).

Disaster data through 2007 indicate increases in the frequency of climate-related disasters, the damage caused, and the number of people affected. On average, during 1998–2007, disasters affected 250 million people a year, with 98 percent affected by climate-related disasters. In 2007, the global humanitarian community spent \$700 million (10 percent of all humanitarian assistance) in response to “natural hazard disasters.” Oxfam research projects that, with business as usual, climate-related disasters will affect 375 million people a year by 2015. According to the Intergovernmental Panel on Climate Change, the most vulnerable regions are Africa and South Asia, where hunger and poverty are already heavily concentrated.

As climate disasters increase in frequency and intensity, the impacts of climate change on food and water security, human health, vulnerability, migration patterns, and conflict potential will likely create increased humanitarian need. If developing-country governments and communities, who are the first responders to these impacts, fail to become more resilient, they may call more frequently upon international disaster responders. Additionally, if a state tips from vulnerability into instability, the presence of a security situation will have implications for the US government. Humanitarian organizations could face a staggering challenge in the coming years, with 634 million people – nearly one-tenth of the world’s current population – living in at-risk coastal areas and 2 billion living in arid regions expected to become severely water-stressed.

It is not only extreme acts of nature that generate risk, but the state of human development in a given locale also shapes vulnerability. More than 97 percent of disaster deaths occur in developing countries and are directly correlated to poverty levels. More frequent and intense storms and floods and long-lasting droughts can erode community capacity to prepare, respond, and rebuild after disaster. Children, the elderly, and women are especially vulnerable. Because of

the very large number of people that may be affected, malnutrition, diseases, injuries, and deaths linked to extreme climatic events may be some of the most important consequences of climate change.

Extreme climate events will lead to significant increases in population movements, which, in turn, will heighten the risk of conflict, violence, and complex emergencies as new arrivals and previously settled groups compete for scarce resources. Such conflicts do not always result in violence; whether they do depends on pre-existing conditions, current political contexts, and outlooks (hopelessness versus hopefulness). The key question is how political contexts will shape climate change response, including DRR, as well as conflict.

Climate change poses a considerable challenge to US and international capacity to meet future humanitarian needs. This challenge presents itself in a context in which the international humanitarian response system is failing to meet existing needs. Between 2005 and 2009, donors provided about 70 percent of the humanitarian assistance requested in United Nations appeals. Within this assistance, there was a bias in favor of food aid at the expense of emergency assistance for health, economic recovery and infrastructure, agriculture, education, protection of human rights, and rule of law. Donors also provided disproportionate aid for high-profile, large-scale emergencies like the Indian Ocean tsunami.

To meet the increased humanitarian need resulting from climate change, the international humanitarian aid system will need to increase its response capacity. During the past decade, the United States has consistently been the world's leading humanitarian donor, giving an average of \$2.6 billion annually and typically accounting for 40-50 percent of global assistance. Increasingly, US foreign disaster assistance is for complex emergencies involving violent, often protracted conflicts.

Given the likely effects of climate change, it behooves the US government to consider (1) how humanitarian emergencies might be prevented and (2) how its emergency response capacity might be enhanced. DRR offers a promising way forward. According to the United Nations, DRR is "the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events." It is intricately linked with climate change adaptation. The return on DRR investment is quite high. Some countries, such as Bangladesh and Mozambique, provide excellent examples of how well-implemented disaster preparedness measures can significantly reduce the impact of climate hazards in risk-prone areas.

However, although DRR diminishes the chance that people will face emergency situations if a climate hazard strikes, it does not eliminate the risk completely.

A significant gap exists between national-level policies and local action. Countries make more progress on DRR when approaches are community-based and conflict sensitive. Pilot programs are largely in the realm of nongovernmental organizations (NGOs), which often use participatory action research and community-based cost-benefit analysis. The US government and other large donors could focus on providing funding for developing countries' efforts to bring successful pilots to scale. Available resources for DRR must increase many fold in order to stem the tide of adverse impacts that are likely to flow from increasingly frequent and intense climate-related events. But the share of the US Office of Foreign Disaster Assistance (OFDA) budget invested in DRR hovered around only 9 percent between 2003 and 2008.

Beyond mainstreaming DRR in its assistance programs, the US government needs to address budgetary, organizational, and legislative issues that currently impede the effectiveness of humanitarian assistance. In addition, the US government needs to sort out how best to draw on the unique capabilities and appropriate role of the US military in humanitarian emergencies while avoiding excessive and unnecessary use of military forces. Finally, the US can play a leadership role in furthering reform of the global humanitarian system, given its pivotal role within that system.

The US government's civilian humanitarian response agencies have certain unique strengths. The OFDA, which is a part of the US Agency for International Development (USAID), coordinates humanitarian operations among US government agencies and actively participates in UN-led sectoral "clusters" that coordinate international response. It has a close relationship with the US military and stations military liaison officers (MLOs) at US regional Combatant Commands. In theory, it is the lead US government agency in humanitarian response. In practice, it is subject to the authority of the US ambassador in the field and to policy makers in Washington. These players may prefer to call in the US military as a first resort in some instances, often for public relations reasons. Other key US government agencies include USAID's Office of Food for Peace (FFP), the State Department's Bureau of Population, Refugees, and Migration (PRM), and US embassies in disaster-affected countries. In 2008, FFP had the largest budget while the Defense Department's humanitarian assistance office had the smallest. NGOs and UN agencies do much of the program implementation. According to DARA International's well-regarded Humanitarian Response Index, the United States ranks first among 23 donors for funding to forgotten emergencies and for equitable distribution of funding;

second for timely aid in sudden-onset disasters; third for capacity for informed decision making; and fourth for beneficiary involvement.

Among the civilian agencies involved in disaster response, OFDA is widely viewed as especially competent, effective, efficient, and nimble. In countries where climate disasters are a regular occurrence, such as several in Latin America, OFDA is making a concerted effort to fund DRR efforts such as early warning systems, vulnerability maps, and local preparedness and capacity building.

FFP also has a number of important humanitarian capabilities. By working through the UN World Food Program (WFP) in emergencies, FFP can operate with a reduced administrative burden and transfer risk to NGOs, since WFP can absorb very large cash and in-kind grants and engages NGOs as implementing partners. If humanitarian food aid supplies are exhausted, FFP can access the Bill Emerson Humanitarian Trust, a backup reserve, without having to seek a supplemental appropriation. FFP has also developed a strategy for prepositioning stocks of donated US food regionally. The office bases decisions about when to respond on a substantial evidence base, including assessments from USAID's Famine Early Warning System Network (FEWSNET). Through FEWSNET, FFP also carries out climate change research that is appropriate for use in adaptation planning.

Major institutional and legal constraints hinder the US humanitarian response system from operating at optimal capacity, and these will only become more noticeable as vulnerability increases as a result of climate change. First, there is currently no systematic institutional mechanism linking immediate humanitarian response with long-term development. Second, there are structural budget issues: annual congressional appropriations typically allocate OFDA only about half of what it spends in a year, with the result that the agency must routinely seek supplemental appropriations to meet funding shortfalls. Third, political considerations strongly influence US humanitarian assistance. Even though the United States carries out need assessments, the process for deciding whether or not to provide aid to a country is often political, opaque, and top-down. Separating humanitarian assistance from short-term military and counterterrorism goals could lead to assistance that is more efficient and effective (in terms of reaching the most people in need at the lowest cost) and better aligned with humanitarian principles. Such a separation could also improve long-term security outcomes, since militarized assistance may well breed resentment. These considerations will be crucial going forward, as climate change leads to increased humanitarian need and heightens the potential for conflict. Fourth, FFP operates under a number of legal constraints that limit its ability to provide food assistance in a flexible and efficient manner. Legally FFP

must provide US commodities, which are often more expensive and take longer to reach recipients than local commodities. Since 2008, the US government has had limited authority to engage in local and regional purchases of food aid in emergencies, but the budgetary resources provided for such purchases are vastly smaller than those provided for in-kind food aid. By law, 75 percent of US food aid must travel on expensive US flag carriers.

Emergency agricultural assistance to help get farmers back on their feet following a disaster receives little funding compared with emergency food aid. As a consequence, some households cannot recover lost assets and livelihoods, making it harder for them to return to normalcy following a crisis. Given the likely severe impacts that climate change will have on agriculture and food security, greater attention to agricultural assistance is urgently needed. This assistance could facilitate agricultural adaptation activities, such as switching to more resilient crops and crop varieties, thereby helping to fill the relief-to-development transition gap.

At times, the US military engages in humanitarian assistance, usually through operations carried out in conjunction with civilian responders. As the arguments that “climate change causes conflict” and “climate change is a threat multiplier” gain more traction, a tendency to look to the military for emergency response will likely grow. The US military will likely be drawn into addressing climate-related disasters and complex emergencies in part because of its unique capabilities in planning, communications, heavy lift transport, and security. In Oxfam’s view, the military should engage in humanitarian operations only as an infrequent last resort. In most instances, humanitarian assistance and community-based disaster risk reduction are best left to organizations and people that specialize in such practices. According to the UN’s guidelines on the use of military forces in humanitarian emergencies (the “Oslo Guidelines”), responsibility for providing humanitarian assistance lies with the affected state; foreign military relief should fill humanitarian gaps as a last resort and must not supplant existing relief mechanisms.

Using the military for reasons other than short-term, immediate heavy lift has several drawbacks. Top-down military command-and-control mechanisms are not suited to using community relief mechanisms. Foreign policy and national security goals, rather than the humanitarian principles of impartiality, neutrality, and independence, generally drive military operations. Military humanitarian assistance may be biased according to political affiliation or security objectives, and these biases are likely to reduce the efficiency of aid delivery. Introducing US military forces can have political repercussions, especially for security, and endanger other humanitarian aid providers or the communities with which they work. OFDA’s military liaison officers have proven effective in promoting

coordination and preventing unnecessary military humanitarian missions, but this program is sorely underfunded. Finally, deploying military assets is expensive.

Conclusions and recommendations

As climate change leads to increased and changing global humanitarian assistance needs, reform of the current inefficiencies and organizational challenges inherent in the US government's emergency aid delivery system will become increasingly urgent. Reforms are needed in three key areas: developing clearer and more effective leadership of humanitarian responses, mainstreaming DRR in humanitarian assistance to better address the transition gap and promote disaster resilience, and improving the efficiency and effectiveness of humanitarian tools.

Lead agency

US emergency response can be politicized and bureaucratically balkanized. In theory, OFDA is the lead agency, but in practice the State Department and administration political decision makers wield considerable influence over whether and how to intervene. Such politicization can waste resources, leave the system overstretched, constrain the humanitarian operating environment, and jeopardize the reputations of aid agencies and their ability to deliver assistance in the long run. Establishing a government-wide definition of, and mandate for, humanitarian assistance might better identify responsibilities and channels for providing aid while also establishing OFDA as the genuine lead agency. In this role, OFDA would have the mandate to shape the overall process of response, integrating tools from all pertinent US government agencies, and convening a biennial interagency review process to set the US government's humanitarian assistance framework and strategy. This approach would require US embassies to coordinate with OFDA, which would have an expanded military liaison program and dispatch the US military if and when appropriate.

Mainstreaming DRR

A mandated mechanism is needed to ensure that USAID country missions temporarily scale up the necessary operations in disaster areas to meet recovery needs, or at least help restore "normalcy" after the crisis ends. To do this, missions would require more flexibility, fewer budgetary earmarks, and staff with expertise in the relief-to-development transition and DRR. In Washington,

USAID would have to break down its bureaucratic silos separating relief and development units.

Giving OFDA – which has the most DRR experience within the US government – separate accounts for rapid onset emergencies on the one hand and protracted emergencies, slow-onset disasters, and DRR on the other would enable it to both plan effectively and remain flexible. This step would also allow OFDA to carry out preparedness and climate change adaptation work before, as well as after, a disaster. To mainstream DRR in US assistance, USAID mission personnel should receive ongoing training on managing conflict risk, developing resilience and preparedness among vulnerable populations, and scaling up successful community-based approaches.

While health, nutrition, water, and sanitation must remain assistance priorities in light of the likely humanitarian impacts of climate change, more resources must also be made available for emergency livelihood support, including agriculture and food security assistance.

Ensuring efficiency and effectiveness

OFDA leadership would help ensure that US assistance conforms with humanitarian principles. Such an outcome is not only about compliance with international humanitarian law and doing the right thing; it is also essential to ensure the effectiveness of US disaster assistance.

To address increased displacement likely to result from climate change, the United States should lead a global process to develop an international legal framework on the rights of environmental refugees and internally displaced persons (IDPs). This framework should not reduce the assistance given to traditional political refugees and IDPs, but instead provide additional protection and assistance to people displaced by climate change and other environmental factors.

Annual appropriations should provide OFDA with reasonable funding for a year, not half of what it needs for annual humanitarian operations. A cash reserve, similar to the Emerson Trust for food aid, should be established to meet urgent, unforeseen disasters, so that the next high-magnitude emergency does not force a drawdown of resources from elsewhere. Likewise, multiyear programming authority for OFDA should expand to better address protracted crises.

Congress should expand FFP's extremely limited ability to procure food aid in the recipient country and region. When FFP purchases US commodities for emergency food aid, it should have the authority to procure shipping on the

open market. Such changes will significantly increase the humanitarian bang of each scarce food aid buck.

Introduction

With disasters – and particularly climate-related disasters – on the rise, the global humanitarian response system is under increased pressure to assist growing numbers of people. The US government is the leading global player – in terms of both resources provided and good practices related to humanitarian assistance – in this complicated and voluntary system. The US approach seeks to encompass a broad range of activities and allow humanitarian agencies flexibility in their missions and response. As a result, however, the myriad interconnected US agencies involved – civilian and sometimes military – are without clear leadership and mission, are beholden to various legislative constraints, and are focused more on response than on proactive disaster risk reduction (DRR).

Our goal is to better understand how climate change is affecting the context in which the United States provides humanitarian assistance and the implications for how the US government responds in the future. Ultimately, we want to show what the US government can do now to better prepare for that future. Also, given the increased humanitarian needs that climate change will likely create, we recommend reforms to enhance the effectiveness of US humanitarian assistance.

Organization of the report

We proceed in this report as follows. The next section looks at the likely humanitarian impacts of climate change as a result of more frequent and more intense climate-related disasters. These effects include heightened vulnerability, food and water insecurity, illness, ecosystem degradation, migration, and conflict. Next, we look at the deficiencies of the current global humanitarian response system in meeting needs and discuss disaster risk reduction as a promising way forward. Then, we examine the strengths and limitations of the current US humanitarian response system, including both civilian agencies and the US military. We also look at how the US could play a leadership role in reforms at the global level.

We conclude with a set of recommendations. These focus on the need for a civilian lead federal agency in international disaster response that will shape a fitting response to each disaster – drawing on the capabilities of the whole of the US government – and ensure that aid is based on humanitarian principles. In particular, such an agency can guarantee that military forces are used sparingly and appropriately. We also recommend budgetary reforms that would help overcome chronic underfunding and permit a multiyear approach to protracted

crises. In addition, we propose measures to address the gap between emergency assistance and long-term development. An increased focus on disaster risk reduction and climate change adaptation can go a long way toward bridging that gap. We recommend dropping obsolete legal restrictions that make US food aid both inefficient and ineffective as a crisis response tool, and we call for increased attention to emergency livelihood support. Finally, we propose that the United States take the lead in developing a global framework to respond to climate change-induced migration.

Climate change and disasters

To understand how climate change will affect US government humanitarian emergency operations, we need to understand the relationship between climate change and future disasters. We define a *disaster* as a serious disruption of the functioning of a community or a society involving widespread human, material, economic, or environmental losses and impacts that exceed the ability of the affected community or society to cope using its own resources.

Disasters can be characterized in two ways. “Slow-onset” disasters come with plenty of warning and build up over years (for example, droughts). “Rapid-onset” disasters happen without warning (for example, tropical storms, volcanoes, earthquakes, floods, and fires). Climate-related disasters – droughts, floods, and storms – fall into both categories. The type, frequency, and intensity of climate-related disasters are expected to change along with the earth’s climate, and these changes could occur even with relatively small average climate changes.¹

According to the Fourth Assessment Report of the UN Intergovernmental Panel on Climate Change (IPCC),² the likely impacts of climate change include:

- More frequent extreme temperatures, heat waves, and heavy precipitation, as well as an expanded number of areas affected by drought and floods
- Increased vulnerability of particular social groups and economic sectors as a result of sea level rise, ecosystem stress, and glacier melting
- Substantial increases in human migration

The report reflected the state of scientific knowledge as of 2006, based on research carried out in earlier years. Subsequent climate change research confirms that global warming is a reality and that human-induced emissions of greenhouse gases are a major cause of warming. Despite recent controversies about some errors in the IPCC Report and email exchanges among scientists, the US National Academy of Sciences has concluded that the scientific case

1. G. A. Meehl, T. F. Stocker, W. D. Collins, P. Friedlingstein, A. T. Gaye, J. M. Gregory, A. Kitoh, R. Knutti, J. M. Murphy, A. Noda, S. C. B. Raper, I. G. Watterson, A. J. Weaver, and Z. C. Zhao, “Global Climate Projections,” in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate*, ed. S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H. L. Miller (Cambridge and New York: Cambridge University Press, 2007).

2. IPCC is an intergovernmental scientific body established by the UN Environment Program and the World Meteorological Organization. Its periodic assessment reports represent the scientific consensus on climate change and its impacts. See www.ipcc.ch/index.htm.

supporting human-caused climate change remains clear.³ Other studies carried out since the publication of the Fourth Assessment Report likewise confirm the IPCC's predictions. For instance, subsequent studies have shown that climate change and variability will lead to more intense and longer droughts, particularly in the tropics and subtropics.⁴ Countries most affected are located in drylands and lower latitudes, particularly in Africa.⁵

Meanwhile, alterations in some types of extreme events have already been observed, and evidence is growing that damaging climate events, potentially intensified by global warming, are already beginning to affect societies and ecosystems. These impacts include:

- Increasing incidence of extreme weather events with unprecedented levels of damage to societies and infrastructure worldwide
- Increases in the frequency and intensity of heat waves, heavy precipitation events, and floods
- Sea level rises leading to dangerous exposure of populations in, for example, coastal Bangladesh and island states
- Persistent droughts, leading to pressures on water and food resources, and increasing incidence of forest fires in regions where future projections indicate long-term reductions in rainfall⁶

Increasing number and human impact of climate disasters

Global losses reveal that the costs imposed by extreme weather-related events have risen rapidly since the 1970s.⁷ Humanitarian organizations could face a staggering challenge in the coming years, with about 634 million people—nearly

3. D. S. Battisti and R. L. Naylor, "Historical Warnings of Future Food Insecurity with Unprecedented Seasonal Heat," *Science* 323, no. 5911 (2009): 240–44; M. E. Mann, "The Climate Conspiracy That Isn't," *Washington Post*, December 18, 2009, op-ed page.

4. K. E. Trenberth, P. D. Jones, P. Ambenje, R. Bojariu, D. Easterling, A. Klein Tank, D. Parker, F. Rahimzadeh, J. A. Renwick, M. Rusticucci, B. Soden, and P. Zhai, "Observations: Surface and Atmospheric Climate Change," in *Climate Change 2007: The Physical Science Basis*.

5. Center for Research on the Epidemiology of Disasters (CRED), Emergency Events Database (EM-DAT), www.emdat.be/database.

6. J. Slingo, A. Thorpe, and L. Rees, "Climate Science Statement from the UK Met Office, National Environment Research Council, and the Royal Society, 24 November 2009," www.nerc.ac.uk/press/releases/2009/29-climate.asp; Meehl et al., "Global Climate Projections."

7. Meehl et al., "Global Climate Projections."

one-tenth of the world's current population – living in at-risk coastal areas.⁸ Two billion people live in arid regions that are expected to become severely water-stressed.⁹ Climate change will also have major consequences for broader social and economic contexts, including food security, water availability, ecosystems, human health, migration pressures, and regional instability.

While many still perceive climate change impacts as future threats, humanitarian assistance¹⁰ organizations have already had to address these impacts. Former UN Under-Secretary General for Humanitarian Affairs John Holmes has stated that any “credible vision of the future must recognize that humanitarian needs are increasing and that climate change is the main driver.”¹¹

Disaster data show increases in the frequency of weather-related disasters, the damage caused, and the number of people affected. Current trends suggest a future in which extreme climate variability and its consequences are likely to become the norm. Data from the Center for Research on the Epidemiology of Disasters (CRED) show that the number of disasters has doubled over the past two decades (partly as a consequence of improved reporting) (Figure 1). During this period, many of the recorded disasters resulted from the increase in frequency and intensity of extreme weather events (thought by the international scientific community to be related to climate change) and to interactions between such events and human vulnerability, which is strongly influenced by declining ecosystems, poverty, poor governance, increased exposure due to development in at-risk areas, and a lack of disaster preparedness.

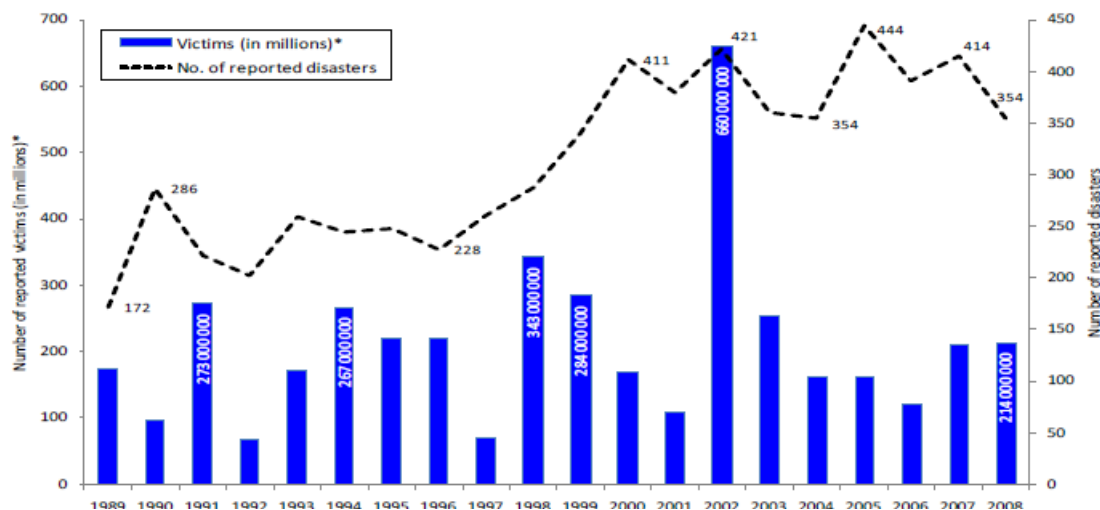
8. Inter-Agency Standing Committee and the International Strategy for Disaster Reduction (IASC/ISDR), “Disaster Risk Reduction Strategies and Risk Management Practices: Critical Elements for Adaptation to Climate Change, Submission to the UNFCCC Adhoc Working Group on Long Term Cooperative Action,” 2008, www.unisdr.org/eng/risk-reduction/climate-change/docs/IASC-ISDR_paper_cc_and_DDR.pdf.

9. M. L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson, eds. *Climate Change 2007: Impacts, Adaptation, and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the IPCC* (Cambridge and New York: Cambridge University Press, 2007).

10. We use the definition of “humanitarian assistance” of the Organization for Economic Cooperation and Development’s Development Assistance Committee: humanitarian assistance is the part of official development assistance allocated to emergency or humanitarian relief, as opposed to aid to long-term development activities.

11. UN Office for the Coordination of Humanitarian Affairs (OCHA), *Climate Change Campaign Toolkit*, <http://ochaonline.un.org/vmu/ClimateChangeToolkit.pdf>.

Figure 1. Trends on disasters and victims.



Source: CRED Emergency Events Database (EM-DAT), <http://www.emdat.be/database>.

From 1988 to 2007, more than 75 percent of all disaster events were climate-related, accounting for 45 percent of disaster deaths and 80 percent of economic losses. Flood-related disasters are now four times more frequent than 20 years ago, and they damage larger areas. Losses include direct effects (such as damage to infrastructure, crops, and housing) and indirect consequences (such as loss of revenues, unemployment, and market destabilization).¹²

CRED data, which cover 1975–2008, show a steadily rising trend in the number of people affected by disasters (Figure 2). Gradual changes in the environment affect far larger numbers of people than do rapid-onset emergencies. Droughts, for example, affect more than twice as many people as storms (1.6 billion compared with 718 million).¹³ On average, during the decade between 1998 and 2007, disasters affected 250 million people a year, with 98 percent of them affected by climate-related disasters. In 2007, the global humanitarian community spent \$700 million, or about 10 percent of all humanitarian assistance, in response to “natural hazard disasters.”¹⁴ Although climate-related disasters were less numerous in 2008 compared with the annual average for the preceding decade, the number of affected people rose 30 percent. Droughts affected 26 million people in Africa and Asia, including more than one-third of the populations of Djibouti, Eritrea, and Somalia (which are also afflicted by

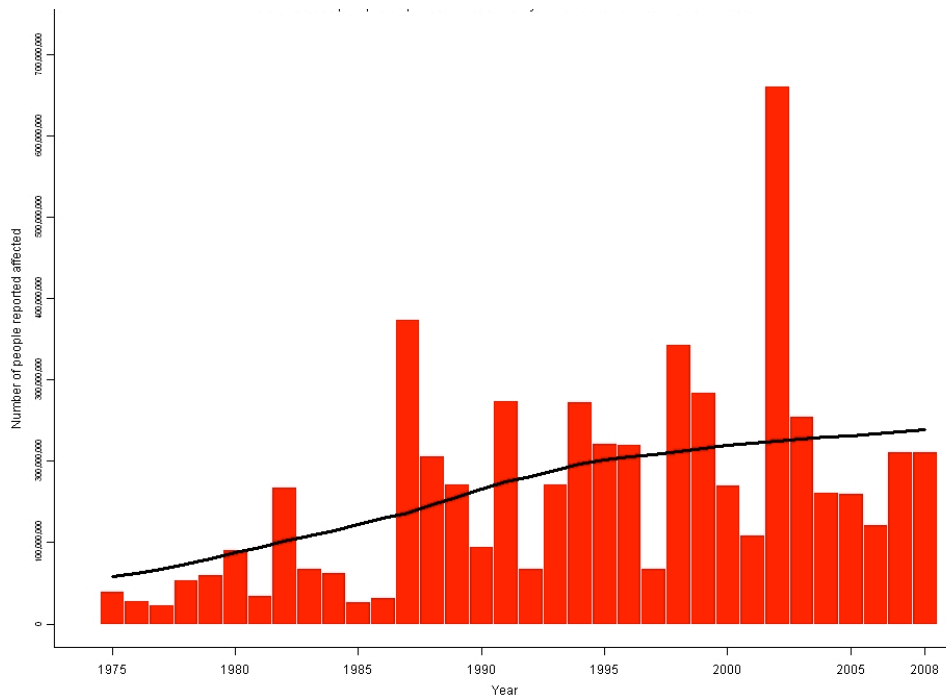
12. Oxfam International, *The Right to Survive: The Humanitarian Challenge for the Twenty-first Century* (Oxford: Oxfam International, 2009).

13. Frank Laczko and Christine Aghazarm, eds., *Migration, Environment, and Climate Change: Assessing the Evidence* (Geneva: International Organization for Migration, 2009).

14. Oxfam International, *The Right to Survive*.

conflict and instability).¹⁵ Preliminary 2009 disaster figures show that extreme weather accounted for 75 percent of the people killed and 95 percent of the people affected by natural hazards.¹⁶ Oxfam research projects that, with business as usual, the number of people affected by climate-related disasters will rise to 375 million by 2015, seriously threatening achievement of the Millennium Development Goals.¹⁷

Figure 2. Number of people reported affected by natural disasters, 1975–2008.



Source: CRED/EM-DAT, <http://www.emdat.be/database>.

The CRED data show that Asia is the continent most affected by disasters. According to IPCC’s Fourth Assessment Report, Central and South Asia could experience a decline in crop yields of up to 30 percent by 2050, while Central, South, East, and Southeast Asia are likely to experience declines in freshwater availability that could affect more than one billion people. Rapid-onset disasters may have their greatest impact on the Indian subcontinent, Central and South America, and Southwest Asia. At the same time, the report identifies Africa as one of the most vulnerable continents, where slow-onset disasters are likely to

15. Laczko and Aghazarm, *Migration, Environment, and Climate Change*.

16. CRED, EM-DAT data.

17. Oxfam International, *The Right to Survive*.

occur most frequently. The zone of vulnerability stretches across the center of the continent, where drought and chronic flooding are already widespread.¹⁸ Overall, vulnerability to climate-related disasters will be most severe in Africa and South Asia, where hunger and poverty are heavily concentrated even now.

Growing vulnerability

It is not only extreme acts of nature that generate risk, but also the state of human development in a given locale that shapes *vulnerability* to disasters. The level of vulnerability is a function of the characteristics of a person or group in terms of their *capacity* to anticipate, cope with, resist, and recover from the impact of a natural or human-caused *hazard*. In addition to the increasing frequency and intensity of extreme weather events related to climate change, communities living in *at-risk* areas are becoming increasingly vulnerable (see Box 1 for definitions of terms).

More than 97 percent of disaster deaths occur in developing countries, and these deaths can be directly correlated with poverty levels.¹⁹ Vulnerable populations (whether in developing or developed countries²⁰) living in disaster-prone areas often have inadequate shelter, few assets or resources, limited options for alternative income, little or no recourse to social protection or insurance, and minimal access to political decision making.²¹ Geography and environmental degradation also contribute to vulnerability. Because of their circumstances, vulnerable people are poorly prepared or equipped to cope with hazards (both climate-related and non-climate-related). They may face multiple human-rights challenges, including discrimination in aid provision, enforced relocation, sexual and gender-based violence, loss of documentation, recruitment of children into fighting forces, unsafe or involuntary return or resettlement, and issues of property restitution.²²

18. M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden, and C. E. Hanson, "Summary for Policymakers," in *Climate Change 2007: Impacts, Adaptation, and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, ed. M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden, and C. E. Hanson (Cambridge and New York: Cambridge University Press, 2007).

19. OCHA, *Climate Change Campaign Toolkit*.

20. For more information on populations living in the United States and vulnerable to the impacts of climate change, see *Exposed: Social Vulnerability and Climate Change in the US Southeast*, Oxfam America Research Report (Boston: Oxfam America, 2009); see also John Cooper and Jasmine Waddell, "Impact of Climate Change on Response Providers and Socially Vulnerable Communities in the US," *Oxfam America Research Background* (Boston: Oxfam America, 2010), www.oxfamamerica.org/files/rb-us-climate-change-impact.pdf.

21. United Nations High Commissioner for Refugees (UNHCR), *Climate Change, Natural Disasters, and Human Displacement: A UNHCR Perspective* (Geneva: UNHCR, 2009), www.unhcr.org/4901e81a4.html.

22. Inter-Agency Standing Committee (IASC), *Final Report: Addressing the Humanitarian Impacts of Climate Change* (Geneva: IASC, 2010).

Box 1: Vulnerability, hazards, capacity, and disaster risk

By *vulnerability* we mean the characteristics and circumstances of a community, system, or asset that make it susceptible to the damaging effects of a *hazard*. This susceptibility arises from various physical, social, economic, and environmental factors and varies significantly within a community over time.

We use *hazard* to mean a dangerous phenomenon, substance, human activity, or condition that may cause loss of life, injury, or other health impacts; property damage; loss of livelihoods and services; social and economic disruption; or environmental damage. Hazards can be natural or human-induced. It is also important to differentiate between primary and secondary hazards. A secondary hazard is the direct result of a primary hazard. For example, an earthquake can cause landslides or a tsunami.

We define *capacity* as the combination of all the strengths, attributes, and resources available within a community, society, or organization that can be used to achieve goals.

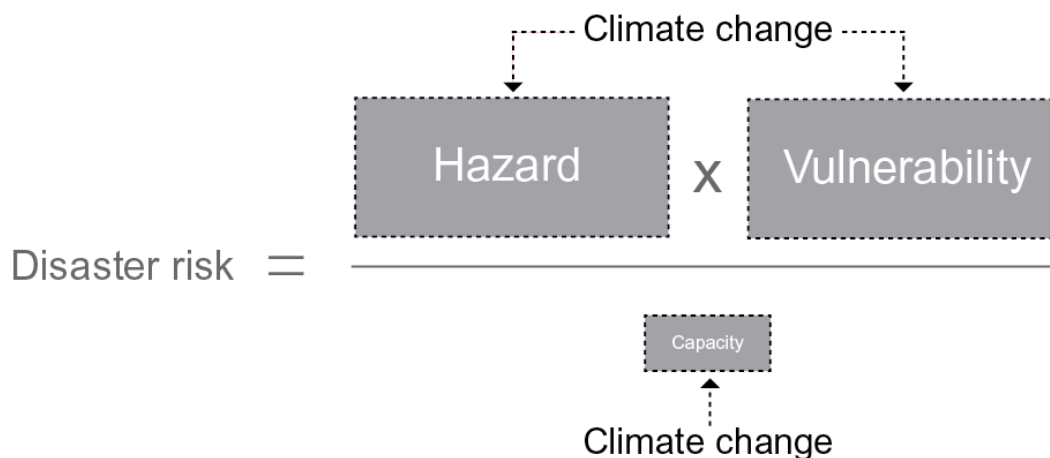
In general, we use *risk* to mean the combination of the probability of an event and its negative consequences. *Disaster risk* means the potential disaster losses, in lives, health status, livelihoods, assets, and services, that could occur to a particular community or a society over some specified future time period. It can be expressed as

$$\frac{\text{hazard} \times \text{vulnerability}}{\text{capacity}}$$

Climate change is expected to exacerbate the risks of disasters, not only by generating more frequent and intense hazard events, but also by increasing people's vulnerability to existing hazards. More frequent and intense storms and floods and long-lasting droughts can erode communities' capacity to prepare, respond, and rebuild after successive hazard events (Figure 3). The other adverse impacts of climate change, for example on public health, ecosystems, food security, and migration, and on the situation of specially vulnerable groups such as children, the elderly, and women, will increase communities' vulnerability to natural hazards of all types. Many countries that are already of concern for humanitarian reasons and that have highly vulnerable populations will face even greater risks owing to the impact of climate change.²³

23. IASC/ISDR, "Disaster Risk Reduction Strategies."

Figure 3. Effect of climate change on disaster risk



Particularly vulnerable are those communities located where the likelihood of flooding and drought is high and whose capacity to cope with these hazards is especially low. These communities, such as those on the Zambezi flood plain or Bangladesh coastline, have suffered repeated climatic shocks, which have depleted their resources and made them reliant on the willingness of external donors to provide assistance.²⁴

The effects of climate change itself add to the underlying vulnerability in developing countries because of the impacts on food and water security and health. By 2080, it is estimated that 1.1 to 3.2 billion people will experience water scarcity. Climate change is expected to have adverse effects on all dimensions of food security – availability, access, stability, and utilization – with negative implications for health and nutrition.²⁵ Climate change is also projected to increase the number of malnourished preschool children by more than 20 percent (an additional 24 million children) by 2050, with nearly half of this upsurge occurring in sub-Saharan Africa.²⁶ This rise in child malnutrition will have serious consequences for child survival, growth, and development, and therefore for future economic development. Water and food insecurity will most severely

24. Laczko and Aghazarm, *Migration, Environment, and Climate Change*.

25. G. W. Yohe, R. D. Lasco, Q. K. Ahmad, N. W. Arnell, S. J. Cohen, C. Hope, A. C. Janetos, and R. T. Perez, "Perspectives on Climate Change and Sustainability," in *Climate Change 2007: Impacts, Adaptation, and Vulnerability*; M. C. Tirado, M. J. Cohen, N.-L. Aberman, J. Meerman, and B. Thompson, "Addressing the Challenges of Climate Change and Biofuel Production on Food and Nutrition Security," *Food Research International* 43 (2010): 1729–44.

26. G. C. Nelson, M. W. Rosegrant, J. Koo, R. Robertson, T. Sulser, T. Zhu, C. Ringler, S. Msangi, A. Palazzo, M. Batka, M. Magalhaes, R. Valmonte-Santos, M. Ewing, and D. Lee, *Climate Change: Impact on Agriculture and Costs of Adaptation*, Food Policy Report (Washington, DC: International Food Policy Research Institute, 2009), www.ifpri.org/sites/default/files/publications/pr21.pdf.

affect Africa, which may lose substantial agricultural land, and South Asia.²⁷ These are already the regions that form hunger's center of gravity.²⁸

Projected climate-change-related exposures are also likely to affect the health status of millions of people, particularly those with low adaptive capacity, through:

- The already noted increases in malnutrition and consequent disorders;
- Increased deaths, disease, and injury due to heat waves, floods, storms, and droughts;
- The increased burden of diarrheal disease;
- An increase in cardio-respiratory diseases due to poor air quality; and
- The altered spatial distribution of some infectious diseases.²⁹

High-density populations in low-lying coastal regions experience a high health burden from climate disasters. Vulnerable areas include settlements in the Seychelles, parts of Micronesia, the Gulf Coast of Mexico, the Nile Delta, the Gulf of Guinea, the Bay of Bengal, and the Asian mega-deltas.³⁰

Because of the very large number of people that may be affected, malnutrition, diseases, injuries, and deaths linked to extreme climate events may be some of the most important consequences of climate change (see Table 1).

27. R. J. Nicholls, P. P. Wong, V. R. Burkett, J. O. Codignotto, J. E. Hay, R. F. McLean, S. Ragoonaden, and C. D. Woodroffe, "Coastal Systems and Low-Lying Areas," in *Climate Change 2007: Impacts, Adaptation, and Vulnerability*.

28. Food and Agriculture Organization of the United Nations (FAO), *The State of Food Insecurity in the World 2010* (Rome: FAO, 2010).

29. U. Confalonieri, B. Menne, R. Akhtar, K.L. Ebi, M. Hauengue, R.S. Kovats, B. Revich, and A. Woodward, "Human Health," in *Climate Change 2007: Impacts, Adaptation, and Vulnerability*.

30. Nicholls et al., "Coastal Systems and Low-Lying Areas."

Table 1. Direction, magnitude, and certainty of projected health impacts of climate change.

	Negative impact	Positive impact
Very high confidence		
Malaria: contraction and expansion, changes in transmission season	←	→
High confidence		
Increase in malnutrition	←	
Increase in the number of people suffering from deaths, disease and injuries from extreme weather events	←	
Increase in the frequency of cardio-respiratory diseases from changes in air quality	←	
Change in the range of infectious disease vectors	←	→
Reduction of cold-related deaths		→
Medium confidence		
Increase in the burden of diarrhoeal diseases	←	

Source: U. Confalonieri, B. Menne, R. Akhtar, K.L. Ebi, M. Hauengue, R.S. Kovats, B. Revich, and A. Woodward, "Human Health," in *Climate Change 2007: Impacts, Adaptation, and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the IPCC*, ed. M. L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson (Cambridge and New York: Cambridge University Press, 2007).

Climate change, migration, and conflict

Extreme climate events will lead to significant increases in population movements, as people choose to or are forced to migrate, and these population movements will, in turn, heighten the risk of conflict, violence, and complex emergencies.³¹ The main causal pathway through which climate change-induced migration can lead to conflict is the competition that often occurs between new arrivals and previously settled groups over scarce resources, including external aid.

Climate-induced migration

Forecasts of environmentally induced migration in 2050 vary dramatically, from 25 million to 1 billion additional people moving either within their countries or across borders, on a permanent or temporary basis. The most widely cited estimate is an additional 200 million people (a figure equal to the current

31. Confalonieri et al., "Human Health."

estimate of all international migrants). In 2008 alone, extreme weather events displaced 20 million people, compared with 4.6 million people uprooted by conflict and violence.³² Projected massive flows of people will have unprecedented impacts on lives and livelihoods. The longer a displacement situation lasts, the greater the risk of human rights violations.³³

Migration, climate change, and environmental degradation are interrelated. Mass migration can lead to unmanaged urbanization and large temporary settlements that negatively affect the environment in places of destination. The complexities of the migration-environment nexus need to be addressed in a holistic manner, taking into account other possible mediating factors including, among other things, human security, human and economic development, trade, livelihood strategies, and conflict.³⁴

Climate change, conflict, and complex emergencies

The relationship between climate change and variation on the one hand, and violent conflict on the other, is multifaceted and country- and situation-specific. Studies have shown that the main impact pathways include competition for scarce environmental resources, especially arable land³⁵ and clean water,³⁶ but also habitable land, which is likely to become scarcer, more crowded, and more costly if worst-case scenarios, especially of flooding, come to pass.³⁷ An important intermediate factor driving resource competition and conflict is human migration, especially into areas that manage to stay inhabitable while conditions deteriorate around them.³⁸

32. Laczo and Aghazarm, *Migration, Environment, and Climate Change*.

33. IASC, *Final Report*.

34. Laczo and Aghazarm, *Migration, Environment, and Climate Change*.

35. UN Environment Program (UNEP), *Sudan Post Conflict Environment Assessment* (Nairobi: UNEP, 2007), http://postconflict.unep.ch/publications/UNEP_Sudan.pdf.

36. A. Wolf, "Conflict and Cooperation along International Waterways," *Water Policy* 1, no. 2 (1998): 251–65, www.transboundarywaters.orst.edu/publications/conflict_coop/; S. Dinar, *International Water Treaties: Negotiation and Cooperation along Transboundary Rivers* (New York: Routledge, 2008); S. Dinar, "The Israeli-Palestinian Water Conflict and Its Resolution: A View through International Relations Theory," paper presented at the 40th Annual Convention of the International Studies Association, 1999, www.ciaonet.org/isa/dis01/; W. Barnaby, "Do Nations Go to War over Water?" *Nature* 458 (March 19, 2009): 282–83; A. Martin, "Environmental Conflict between Refugee and Host Communities," *Journal of Peace Research* 42, no. 3 (2005): 329–46; P. Gleick, *Water Conflict Chronology*, www.worldwater.org/conflictchronology.pdf.

37. UK Ministry of Defense, Development Concepts Doctrine Center, Strategic Trends Program, *Global Strategic Trends—Out to 2040* (London: UK Ministry of Defense, 2010), www.mod.uk/NR/rdonlyres/38651ACB-D9A9-4494-98AA-1C86433BB673/0/gst4_update9_Feb10.pdf; see also Lisa Friedman, "Bangladesh: Where the Climate Exodus Begins," *Environment and Energy Daily*, March 2009, www.eenews.net/special_reports/bangladesh/.

38. N. P. Gleditsch, R. Nordås, and I. Salehyan, "Climate Change and Conflict: The Migration Link," *Coping with Crisis Working Paper* (New York: International Peace Academy, 2007); R. Black, D. Kniveton, R. Skeldon, D. Coppard, A. Murata, and K. Schmidt-Verkerk, "Demographics and Climate Change: Future Trends and Their Policy Implications for Migration," Working Paper T-27 (Brighton, UK: Development Research Centre on Migration, Globalization, and Poverty, University of Sussex,

That said, most of the countries of greatest concern – including Bangladesh, Ethiopia, Israel-Palestine, and Sudan (especially the Darfur region³⁹) – are already in conflict, or at risk because of past conflicts, which suggests that even in the absence of climate change, conflict would likely occur or continue. These countries also host large numbers of displaced people. Likewise, in parts of Somalia, where violence has been endemic for two decades, long-term drought has contributed to water scarcity, migration, and new outbreaks of violence.⁴⁰

Country specialists analyzing chains of conflict causation focus on complicated or indirect webs of relationships and find that conflicts over resources do not always result in violence.⁴¹ Whether they do so depends on pre-existing conditions, current political contexts, and outlooks (hopelessness versus hopefulness).⁴² The crucial question is how political context shapes response to climate change, including *disaster risk* (see Box 1 for definition) reduction, as well as conflict and its transformations.

Complex emergencies

Conflicts not only create the need for humanitarian assistance, but also give rise to situations in which it is exceedingly difficult to provide that assistance. According to the Inter-Agency Standing Committee (IASC)⁴³ – the main international body that coordinates humanitarian assistance on the ground – a complex emergency is:

a humanitarian crisis in a country, region or society where there is total or considerable breakdown of authority resulting from internal or external conflict and which requires an international response that goes beyond the

2008); G. Hugo, "Environmental Change as a Cause of Migration," paper presented at the 2nd Expert Workshop on Climate Change, Environment, and Migration, July 23–24, 2009, Munich, Germany, www.munichre-foundation.org/NR/rdonlyres/997729DA-B698-4255-9DA0-BDBBC670A76E/0/20090806_ExpertWorkshopSyllabus_web.pdf.

39. UNEP, *Sudan Post Conflict Environment Assessment*; M. Renner, "Desertification as a Source of Conflict in Darfur," www.worldwatch.org/node/5173; M. Buchanan-Smith and A. A. Fadul, *Adaptation and Devastation: The Impact of the Conflict on Trade and Markets in Darfur* (Medford, MA: Feinstein International Center, Tufts University, 2008); A. DeWaal, "Is Climate Change the Culprit for Darfur?" *Making Sense of Darfur Blog*, June 25, 2007, <http://blogs.ssrc.org/darfur/2007/06/25/is-climate-change-the-culprit-for-darfur/>; A. Cho, "Ourselves and Our Interactions: The Ultimate Physics Problem?" *Science* 325 (2009): 406–8.

40. IRIN, "Somalia: Plea over Water Scarcity in Sool Region," May 11, 2009, www.irinnews.org/Report.aspx?ReportId=84326.

41. Ellen Messer, "Climate Change and Violent Conflict: A Critical Literature Review," *Research Backgrounder* (Boston: Oxfam America, 2010), www.oxfamamerica.org/publications/climate-change-and-violent-conflict.

42. See, for example, D. Smith and J. Vivekenanda, *A Climate of Conflict: The Links between Climate Change, Peace, and War* (London: International Alert, 2007); UNEP, *Sudan Post Conflict Environment Assessment*.

43. IASC brings together the main global humanitarian actors: UN agencies, other intergovernmental organizations, and, through the Steering Committee on Humanitarian Response (SCHR), the Red Cross–Red Crescent Movement and several umbrella associations of international NGOs, including Oxfam International. See www.humanitarianinfo.org/iasc/pageloader.aspx.

mandate or capacity of any single agency and/or the ongoing United Nations country program.⁴⁴

Complex emergencies frequently involve drought or other climate-related disasters, as well as sociopolitical factors. Typical characteristics of complex emergencies include:

- Extensive violence and loss of life;
- Massive displacement;
- Widespread damage to societies and economies;
- The need for large-scale, multifaceted humanitarian assistance;
- The hindrance or prevention of humanitarian assistance by political and military constraints; and
- Significant security risks for humanitarian relief workers in some areas.⁴⁵

Both climate-related disasters and resource scarcity are on the rise because of climate change. These trends could lead to acceleration in the already rising trend in the number of complex emergencies, presenting questions of security capacity for relief providers and affected populations in addition to questions of how to move populations back to “normalcy” in an environment complicated by human conflict.

Climate change and disasters: Summary

As resources grow scarcer and less predictable and severe weather events increase in frequency and intensity, the impacts of climate change on food and water security, human health, vulnerability, migration patterns, and conflict potential will likely create increased humanitarian need. If developing-country governments and communities, which are the first responders to these impacts, fail to become more resilient in the face of these challenges, they may call more and more upon international disaster responders to meet needs related to resource scarcity and extreme weather events. Additionally, if a state tips from vulnerability into instability, the presence of a security situation will have

44. Quoted in *OCHA Orientation Handbook on Complex Emergencies*, 1999, www.reliefweb.int/library/documents/ocha__orientation__handbook_on__.htm (accessed in September 2010).

45. Ibid.

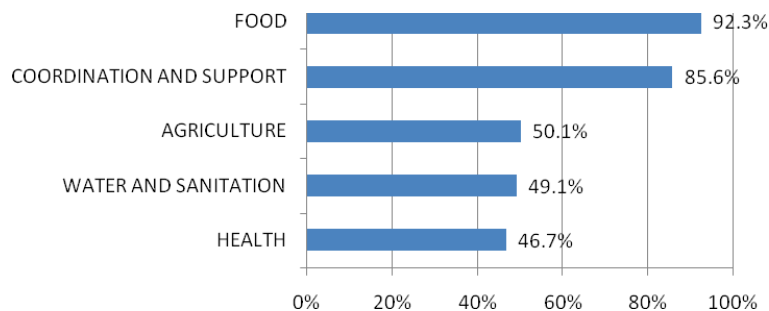
implications for that state's citizens, the US government, US national security, and the global humanitarian community.⁴⁶

46. E. McGrady, M. Kingsley, and J. Steward, "Climate Change: Potential Effects on Demands for US Military Humanitarian Assistance and Disaster Response," *IPR Research Memorandum 13873* (Alexandria, VA: CNA, 2010).

Meeting current and future humanitarian need

Climate change poses a considerable challenge to US and international capacity to meet future humanitarian need. This challenge presents itself in a context in which the international humanitarian response system is failing to meet existing needs. Between 2005 and 2009, donors provided about 70 percent of the humanitarian assistance requested by the United Nations in consolidated and flash appeals.⁴⁷ During the decade 1999–2008, certain sectors consistently did better than others. There is a bias in favor of food aid, with donors covering an average of 92 percent of the amount in appeals during this period, compared with 47 percent for health, 51 percent for economic recovery and infrastructure, 50 percent for agriculture, 31 percent for education, and 42 percent for protection, human rights, and rule of law (Figure 4 shows the trends for several of these sectors). Even though funding sectors that improve livelihoods, such as agriculture and infrastructure, or human capital, such as health and education, may decrease the need for food aid during the next disaster, these sectors are consistently underfunded compared with more reactive sectors such as food aid.

Figure 4. Share of OCHA consolidated and flash appeals funded, 1999–2008.



Source: Authors' calculations based on data from UN Office for the Coordination of Humanitarian Affairs (OCHA) Financial Tracking Service, accessed March 22, 2010,

<http://ocha.unog.ch/fts/pageloader.aspx?page=emerg-globalOverview&year=2010>.

Note: Percentages represent weighted share of revised appeals over the 10-year period.

47. The consolidated appeals process (CAP) is a strategic planning and resource mobilization tool for humanitarian agencies. Each year, humanitarian agencies within a country create a plan for the following year, detailing the need that they anticipate, their coordinated spending forecasts, and their programming plans. Flash appeals are issued when a natural disaster occurs outside of what was calculated in the annual CAP. The OCHA monitors donor funding commitments to the appeals by donor, recipient country, and sector and makes this information public.

Sometimes funding patterns are geographic and driven by media attention in donor countries, as shown by the disproportionate relief directed to high-profile, large-scale emergencies. In 2005, for example, donors provided a staggering 475 percent of the amount requested to meet humanitarian needs created by the Indian Ocean tsunami but covered only 73 percent of assessed needs generated by the food emergency in Niger.⁴⁸ Because of these practices, people in certain areas of the world, or those affected by certain types of disasters such as drought, are more likely to suffer from compounding vulnerability and as a result face increased risk of death, extreme impoverishment, migration, and conflict—outcomes that will create even more need for humanitarian assistance.

To meet the increased humanitarian need resulting from climate change, the international humanitarian aid system will need to increase its capacity to respond. Given the size and scope of the problem, this task should be of urgent importance to the US government. Additionally, increasing capacity to respond to humanitarian need may be in the political best interests of policymakers. An overwhelming majority of US citizens believe that US foreign policy should serve altruistic purposes. Ninety-seven percent of Americans believe the US government has a responsibility to help foreign countries suffering from a disaster, and 88 percent believe that US foreign policy should help other countries move out of poverty.⁴⁹ So, what does current US humanitarian response capacity look like?

48. OCHA/Financial Tracking Service (<http://fts.unocha.org/>) for Niger; International Federation of Red Cross and Red Crescent Societies, *World Disaster Report 2006* (Geneva) for tsunami.

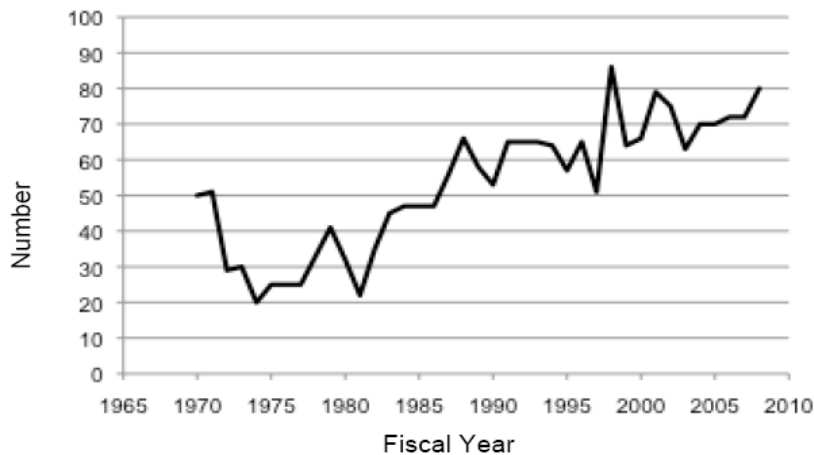
49. World Public Opinion, US Role in the World: Altruism, the Global Interest, and the National Interest, www.americans-world.org/digest/overview/us_role/nat_interest.cfm (accessed September 17, 2010).

When emergency strikes: US humanitarian response capacities

During the past decade, the United States has consistently been the leading donor of global humanitarian assistance, typically accounting for 40–50 percent of the total. Since 2001, US humanitarian assistance has averaged nearly \$2.6 billion annually, accounting for 13 percent of all US aid.

US humanitarian responses have steadily increased over the past 30 years (Figure 5). In addition to the increasingly severe human impacts of climate-related disasters, media attention to disasters, evolving US foreign policy, and changing public opinion have likely influenced this tendency. There is no indication that this trend will reverse, and in fact it will likely bend upward as climate change, the environment, and their links to state instability become greater US national security concerns.⁵⁰

Figure 5. US humanitarian responses, 1965–2009.



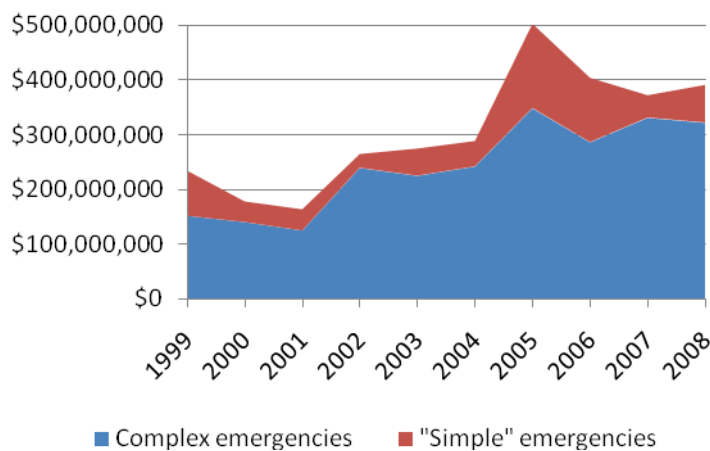
Source: E. McGrady, M. Kingsley, and J. Steward, “Climate Change: Potential Effects on Demands for US Military Humanitarian Assistance and Disaster Response,” *IPR Research Memorandum 13873* (Alexandria, VA: CNA, 2010).

Note: Number of responses is based on OFDA responses only.

50. Senate testimonies such as those of Generals Wald and McGinn and reports such as CNA, *National Security and the Threat of Climate Change* (Alexandria, VA: CNA, 2007) and Christine Parthemore and Will Rogers, *Sustaining Security: How Natural Resources Influence National Security* (Washington, DC: Center for New American Security, 2010) are evidence of this.

Increasingly, US foreign disaster assistance is for complex emergencies, of which extreme weather events, usually slow-onset disasters, explain only part. As Figure 6 shows, during fiscal years 1999–2008, complex emergencies involving violent conflict absorbed the overwhelming bulk of US Office of Foreign Disaster Assistance (OFDA) aid (nearly 80 percent a year). Additionally, Food for Peace (FFP) figures for 2008 show that 44 percent of emergency US food aid was channeled to conflict countries – Afghanistan, the Democratic Republic of the Congo, Somalia, and Sudan. Conflicts are often protracted, and victims often require years of assistance.

Figure 6. A decade of OFDA foreign disaster response, 1999–2008.



Source: OFDA annual reports, 1999–2008.

Given that the global humanitarian aid system does not meet current needs effectively and that climate change will put greater pressure on international responders in the future in a business-as-usual scenario, it behooves the US government, as the largest provider of humanitarian assistance, to consider (1) how humanitarian emergencies might be prevented and (2) how its emergency response capacity might be enhanced. These two questions should be addressed on a parallel yet sometimes integrated track.

Mainstreaming DRR into US humanitarian and development programming by scaling up successful community-based projects offers a promising way forward in prevention of disasters. Beyond prevention, the US government needs to address budgetary, organizational, and legislative issues that currently impede the effectiveness of humanitarian assistance, while also better addressing how to link emergency assistance and long-term development. In addition, the US

government needs to sort out how best to draw on the unique capabilities of the US military in humanitarian emergencies while avoiding excessive and unnecessary use of military forces in place of civilian humanitarian agencies. Finally, the US can play a leadership role in furthering reform of the global humanitarian system, given its important role within that system. Because of the likely humanitarian impacts of climate change, it is essential that the US government take the needed steps now to improve its humanitarian response capacity.

Preventing future humanitarian emergencies: Disaster risk reduction and climate resilience

It is often possible to reduce the level of humanitarian assistance needed when disaster strikes by shifting resources proactively to concentrate on reducing vulnerabilities and improving preparedness at national and local levels. By “acting sooner and acting smarter,” authorities can prevent some emergencies, thus lessening the need for costly ex post international response and reconstruction operations. DRR is “the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.”⁵¹

In an era of increasingly frequent and intense climate-related disasters, DRR is an opportunity for the US government to help disaster-prone developing countries prevent loss of life and property.⁵² The direct costs of DRR offer a high “return on investment” in terms of lessening the need for reactive humanitarian assistance and reducing economic losses due to climate-related and other disasters. A World Bank study estimated that economic losses worldwide from disasters in the 1990s could have been reduced by \$280 billion (out of a total of \$700 billion⁵³) if \$40 billion had been invested in preventative measures – a seven-to-one return.⁵⁴ Some countries, such as Bangladesh and Mozambique, provide excellent examples of how well-implemented disaster preparedness measures can significantly reduce the impact of climate hazards in risk-prone areas.⁵⁵

In areas in which DRR has been a priority, OFDA has seen a decline in the number of people affected per disaster and in the number of US experts that

51. UN International Strategy for Disaster Reduction (UNISDR), *Terminology on Disaster Risk Reduction*, 2009 (Geneva: UNISDR, 2009), www.unisdr.org/eng/terminology/UNISDR-terminology-2009-eng.pdf (accessed May 19, 2010).

52. For a more detailed discussion of disaster risk reduction, see Kelly Hauser, “From the Ground Up: Strategies for Global and Community-based Disaster Risk Reduction,” *Oxfam America Research Backgrounder* (Boston: Oxfam America, 2010), www.oxfamamerica.org/files/from-the-ground-up.pdf.

53. CRED, EM-DAT data (accessed March 2010).

54. World Bank, “Natural Disasters: Counting the Cost,” <http://go.worldbank.org/WVARPQ0VT0>.

55. OCHA, *Climate Change, Displacement, and Migration: Understanding and Responding to the Humanitarian Impacts, Summary Note* (Geneva: OCHA, 2008).

need to be flown into disaster areas. For example, 5,000 people died in Bangladesh in 2007 as a result of Cyclone Sidr, compared with 150,000 deaths from the cyclone that struck in 1991. OFDA staff attribute this life-saving improvement, at least in part, to disaster risk reduction.⁵⁶ Over the past 20 years, Bangladesh has implemented a DRR system that is coordinated by the national Ministry of Food and Disaster Management and supported by nongovernmental organizations (NGOs) and donors. The system relies on community-level analysis of hazard exposure and escape route design, carried out by trained volunteers. Public information campaigns raise awareness of risk and prevention measures. Throughout the country, there are safe schools, storm-proof shelters, early warning systems, and infrastructure such as raised embankments.⁵⁷

Many community-level analyses provide evidence of the economic benefits of DRR. For example, in Vietnam, the Red Cross spent \$1.1 million on planting mangroves to protect 110 kilometers of dikes and saved the government \$7.3 million in annual dike maintenance costs, in addition to protecting nearly 8,000 people living nearby from flooding.⁵⁸ Likewise, OFDA estimates that in Kinshasa, Democratic Republic of the Congo, each dollar of investment in DRR in 1998 resulted in the avoidance of flood-related economic losses of more than \$45.58 during the following rainy season, not including social or secondary economic benefits.⁵⁹ Even so, the avoided losses added up to more than half of the average household income of the participants. Finally, OFDA was not called to Kinshasa to respond to flooding and was able to use its finite response resources elsewhere.

As a result of such evidence, there is a growing movement to integrate DRR into global humanitarian and development planning. For the United States and other donors, this means investing more resources in helping developing countries undertake such efforts. OFDA has made some progress in this area, and the World Food Program (of which the United States is the largest funder) is taking steps to build climate resilience in the countries where it works.

In the wake of the destruction and loss from the tsunami of late 2004, governments of 168 countries met in Japan and adopted the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to

56. Interviews with Anthony Stitt and Lynn Marie Thomas, acting regional advisors, OFDA, December 2009.

57. Stephan Beschle, "Reducing Disaster Risks," *D+C* 50, no. 10 (2009): 373–75, www.inwent.org/ez/articles/156840/index.en.shtml.

58. I. Kelman and S. Pooley, *Mitigation Saves*, Version 9, January 2006 (Version 1 was October 30, 2002), www.ilankelman.org/miscellany/MitigationSaves.rtf.

59. *Ibid.* Although avoided and indirect economic costs alone present a convincing case for DRR, avoided social costs should also be taken into account. This area is ripe for further research.

Disasters (HFA).⁶⁰ It seeks to integrate DRR into development policies and planning, emergency preparedness, and response and recovery programs, as well as to strengthen institutional capabilities and mechanisms that build resilience to hazards.⁶¹ It is also the strongest international mandate on the gender implications of disasters and climate change, calling for the integration of a gender perspective into all disaster risk management policies, plans, and decision-making processes.

DRR is intricately linked with climate change adaptation, and they overlap significantly in theory, practice, and objective. However, the institutions, policies, and frameworks that move each forward are siloed. Although many National Adaptation Programs of Action (NAPA) integrate DRR activities, global frameworks such as the United Nations Framework Convention on Climate Change (UNFCCC) and the HFA are distinct and may even compete for resources and duplicate efforts. UNFCCC has a larger secretariat, more resources, and greater power than the UN International Strategy for Disaster Reduction (UNISDR), HFA's institutional home. This difference is partly due to the institutional differences between the two bodies within the United Nations structure, and it contributes to the lack of coordination between DRR platforms and NAPAs and non-developing-country adaptation strategies at the national level. Nor have NGOs typically integrated the two areas. DRR is often seen as the first line of defense in climate change adaptation, if it is recognized at all. However, mainstreaming DRR into the adaptation agenda could strengthen the call for adaptation resources and, at the same time, garner more resources for disaster risk reduction.

Given the results of the first two large assessments on progress⁶² toward the goals of the HFA, the question looming before development practitioners, donors, and governments is how to bridge the gap between national policies and local action. The report *Views from the Frontline*, a civil-society assessment of progress on meeting HFA goals, concludes that top-down policies alone will not work.⁶³ The study finds that a significant gap exists between national-level policies and local action, that countries make more progress on the HFA when approaches are community-based, that civil society organizations are more

60. www.unisdr.org/eng/hfa/hfa.htm.

61. Information in this paragraph was taken from UN ISDR, *Summary of the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters*, www.unisdr.org/eng/hfa/docs/summary-HFP-2005-2015.pdf. The entire document can be found at www.unisdr.org/eng/hfa/hfa.htm.

62. United Nations, *2009 Global Assessment Report on Disaster Risk Reduction* (Geneva: United Nations, 2009), and Global Network of Civil Society Organizations for Disaster Reduction, *Views from the Frontline: A Local Perspective of Progress towards Implementation of the Hyogo Framework for Action* (Teddington, UK: Global Network of Civil Society Organizations for Disaster Reduction, 2009).

63. Global Network of Civil Society Organizations for Disaster Reduction, *Views from the Frontline*.

engaged in DRR than local government or community representatives, and that resources and human capacity are often major constraints to progress.⁶⁴

Community-based DRR

Views from the Frontline recommends increasing community participation at the local level to build community awareness of risk, improving planning and preparedness, and bridging the gap between local and national levels. As noted earlier, it is in the best interest of the US government to help foreign countries implement such strategies. Such investments can help the US government save lives during disasters. However, its efforts will need to be community-based, conflict-sensitive, and widespread in order to put a significant dent in global disaster risk, particularly the risk from climate-related disasters.

Communities and local governments must be empowered to act both together and autonomously in emergencies, in designing preparedness plans, and in building long-term resilience. National governments have an important coordination and facilitation role to play. US government agencies can support this type of work through funding and ex ante technical assistance.

Most emergencies will be small and localized, and, even when they are widespread, impacts and local capacities to respond will vary from town to town and community to community. It is nearly impossible for a national government to adequately design evacuation routes, facilitate drills, and build awareness in every community. As a result, decentralization of emergency response is necessary. However, local governments do not have the manpower, the capacity, or the resources to act adequately alone. As such, communities are the true and best “first responders” in emergencies. Building resilience and reducing vulnerabilities protects assets and can reduce the number of people trapped in poverty. Only communities themselves can accurately identify their vulnerabilities and the capacities they have available for reducing their risk. NGOs can play a unique role in facilitating this identification process. They can help strengthen the capacity of both communities and local governments.

Common tools used by NGOs and international organizations include participatory action research and cost-benefit analysis for DRR. Participatory action research helps communities determine their risk and how to reduce their vulnerabilities in the face of natural hazards. It has the power to become a tool

64. The study also found that the Middle East and Africa are lagging behind other regions in their progress in implementing the Framework and that Asia and Central America are leading the pack.

for advocacy, education, and precise program development.⁶⁵ In India, for example, such research led to positive impacts for farmers in Tamil Nadu state, who adapted their cropping plans to new patterns in rainfall; for communities in Andhra Pradesh state, whose local organizations created flood contingency plans; and for the city of Surat in Gujarat state, which has developed and started implementing a comprehensive climate resilience strategy as part of the Asian Cities Climate Change Resilience Network.⁶⁶ Cost-benefit analysis can be used as a community decision-making tool that will aid in designing risk reduction activities. Communities at risk are invited to identify the possible actions they can take to reduce their risk, to compare the benefits of those actions against the cost of implementing them, and to use this information in deciding which activities will be most efficient in reducing risk.

These are just a few examples of how community participation can lead to better risk reduction, climate change adaptation, and, therefore, development. In certain situations, disaster and conflict will be risks faced by a community. In these cases, the best approach to disaster risk reduction will be conflict-sensitive, and programs and policies could include elements of conflict prevention or resolution in their design.

Conflict prevention and DRR

By carefully combining geographic early warning with livelihood and poverty mapping in areas where there is a risk of state failure (severe political conflict and regime crisis) and ethnic conflict,⁶⁷ analysts could help pinpoint where conflict could be expected, based on conventional conflict analysis and climate change criteria linked to land and water issues. Such analyses provide a foundation for conflict-sensitive development interventions that seek to “do no harm” to either the natural or the political environment.

An example of such a conflict-sensitive intervention is the Afghan PEACE (pastoral engagement, adaptation, and capacity enhancement) project, a collaborative research and training activity that focuses on nomadic rural herders. The project includes a conflict prevention component. The Kuchi make up 5 percent of Afghanistan’s population but supply more than 50 percent of the animals in Afghan markets and 50 percent of the country’s export revenue (from

65. Oxfam International, *Collaboration in Crisis: Lessons in Community Participation from the Oxfam International Tsunami Research Program* (Geneva: Oxfam International, 2009).

66. Ibid. Additional information was provided by Cristina Rumaitis del Rio of the Rockefeller Foundation.

67. This is the definition of political instability used by the US government-funded Political Instability Taskforce; see <http://globalpolicy.gmu.edu/pitf/> for more detail.

wool, carpets, and leather). This group is vital to the economic, political, and food security of the country, but there are serious, intractable conflicts between Kuchi and sedentary communities in Afghanistan. These conflicts are interethnic and economically driven in nature, and most of them concern access to rangelands. They can be classified into two categories: conflicts over refusal of access to rangelands and, in cases where access is granted, conflicts over access rights.⁶⁸

USAID has funded the Afghan PEACE project, and collaborating institutions include AgriLIFE Research (Texas A&M University), the University of California at Davis, Mercy Corps, Kabul University, the Independent Department of the Kuchi, and the Afghanistan Ministry of Agriculture. In addition to seeking to improve livestock productivity, the project has a large capacity-building component that includes both training and internships in livestock production management, market information systems, rangeland surveys for early warning systems, and conflict resolution. This last element focuses on addressing equitable sharing of scarce resources, which will become even more important as Afghans feel the effects of climate change.

Going global

The practices that we have briefly examined are just the beginning of efforts to reduce the risk of disaster faced by the world's most vulnerable people. Taking these practices to a larger scale will be necessary to decrease the widespread vulnerability that may result from climate change. Development actors must work at multiple levels in order for DRR to be widespread and effective globally. While piloting programs is largely in the realm of NGOs, the US government and other large donors could focus on providing funding for developing countries' efforts to bring successful pilots to scale. It is not clear to what extent donors are currently doing so. In our research, we identified four main strategies that developing countries (on their own or in collaboration with donors) can pursue to bring DRR interventions to scale:

- The creation of national and subnational multistakeholder platforms
- The use of existing public structures
- The encouragement of natural and viral replication of programs and principles

68. Interview with Nasrat Wassimi, June 2009; see also <http://www.afghanpeace.org>.

- The harnessing of financial and private sector incentives

While DRR will be led by local communities, NGOs, and governments, international NGOs can provide technical expertise and strategic advice on linking up and out through these strategies. Donor governments can provide resources and additional technical expertise. Examples of these strategies in practice include the following:

- **El Salvador’s national DRR network, the Mesa Permanente para Gestion de Riesgos.** This network has been working toward “ensuring that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.” Mesa rose out of collaboration between civil society and government actors after Hurricane Mitch in 1998. With the support of NGOs, Mesa has worked to broaden the political discourse around DRR from just emergency response to an additional emphasis on small-scale community projects to reduce risk, such as making riverbanks more flood-resistant, publicizing evacuation routes, or rebuilding schools farther from a hurricane-prone shoreline, and others, depending on the particular vulnerabilities of communities. Built through cross-sectoral alliances, regular meetings, and a common agenda, Mesa uses advocacy and social pressure to hold governments accountable. In 2005, the network helped push through the Law for Civil Protection, which created a legal mandate for the establishment of local-level committees for civil protection that connect with provincial and national-level bodies.⁶⁹
- **Community-based vulnerability analysis and DRR in Kenya’s Ijara District.** Action Aid helped the local community carry out participatory analyses of vulnerability to periodic droughts, floods, and windstorms. These analyses identified drinking-water shortages as a major vulnerability during disasters. The community then installed guttered roofs to capture water in storage tanks on school grounds. This step reduced the amount of time that women and children must spend gathering water each day and lessened the risk that community members will either go without drinking water during a drought or drink unsanitary water during a flood.⁷⁰
- **Public awareness raising in Zambia.** Oxfam has supported the efforts of youth to create their own radio content tailored to their context and locality to address the unique set of risks that their community faces. Programming spans from advising people of the dangers of leaving waste in drainage areas

69. Oxfam America and the National Network for DRR, *El Salvador: Efforts by National Network for DRR Help Curb Poverty Cycle*, forthcoming; and personal communication with Karina Coppen, Oxfam America–San Salvador.

70. Action Aid Kenya, *Disaster Risk Reduction in Schools*, www.actionaid.org/india/index.aspx?PageID=4281 (accessed March 4, 2010).

to raising awareness of government commitments made at Hyogo – so that they can start demanding their rights to available resources, influencing development plans, and creating a culture of accountability.

- **Agricultural adaptation to climate change in Ethiopia.** Food for the Hungry played a facilitative role in using existing national structures to help farmers adapt and build their resilience in the face of decreasing rainfall and a higher chance of drought as a result of climate change.⁷¹ Farmers in a highland region had traditionally grown wheat, which requires six months to mature and has a high chance of failing during drought. So farmers began switching to potatoes, another locally consumed crop that requires only four months to mature. They soon found that the traditional potato varieties are susceptible to blight and have low yields. After identifying this vulnerability and the local capacity for climate change adaptation, Food for the Hungry went to the government agricultural research centers and discovered that they had developed blight-resistant, higher-yielding potatoes based on the local varieties but did not have the resources to fund extension to highland farmers. Food for the Hungry facilitated a grant from USAID to the Ministry of Agriculture and Rural Development to get Ethiopian extension agents and the improved varieties out to and tested in the highland communities. The farmers, struggling with the blight and low yields, welcomed the testing and subsequently adopted these improved varieties in their fields. Food for the Hungry was able to develop an appropriate intervention because the organization understood the local vulnerabilities and the particular agricultural challenges the highland farmers were facing as a result of climate change.
- **Microinsurance in Ethiopia.** Oxfam America is working with Ethiopian farmers, the global reinsurance company Swiss Re, the Relief Society of Tigray (REST), the International Research Institute for Climate and Society at Columbia University, Nyala Insurance, the Ministry of Agriculture and Rural Development, and several other organizations to launch the Horn of Africa Risk Transfer for Adaptation (HARITA).⁷² It contributes to resiliency for smallholder farmers based on a combination of agroecological farming technologies, drought insurance, and credit. The scheme reaches the poorest farming families in Adi Ha, Tigray, through a premium-for-assets program supported by the United Nations World Food Program (WFP) and the Ministry's Productive Safety Net Program. This scheme monetizes the risk-

71. This anecdote was presented by Andrew Barnes of Food for the Hungry at Interaction's Principles for Effective Adaptation Programs September 2009 workshop.

72. Information about HARITA is from Oxfam America, *Horn of Africa Risk Transfer for Adaptation (HARITA) Project Brief* (Boston: Oxfam America, 2009) and personal communication with David Satterthwaite.

reducing labor of poor farmers into their premiums.⁷³ Farmers participated in a community-wide vulnerability and capacity assessment and identified lack of rainfall and droughts as the primary hazards to their well-being. They now apply resilience-building and agricultural risk-reducing solutions such as composting, water harvesting, seed washing, and tree and grass planting. Less-poor farmers who do not qualify for the premium-for-work program can pay cash premiums. The program will be sustainable when the right mix of poor and less-poor farmers are participating and when its coverage includes areas that have different climate shock patterns. Payouts are based on indexed meteorological indicators. This approach lowers the cost of verification and reduces insurers' risk of moral hazard associated with individual behavior. In December 2010, Oxfam and WFP announced a five-year, \$28 million partnership to scale this model up in other developing countries. The program will allow farmers to pay their premiums through labor in WFP's food-and-cash-for work programs. Community members will work on irrigation and forestry projects that will reduce the impact of climate change for their villages.

Harnessing resources

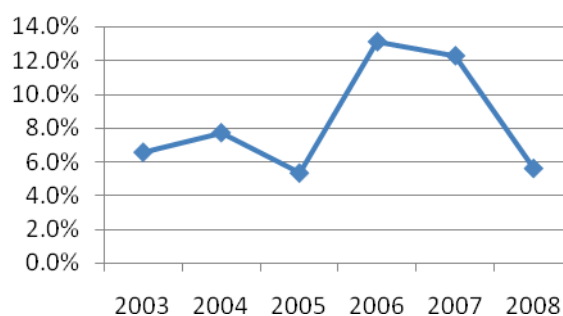
Available resources for DRR must increase many fold in order to stem the tide of adverse impacts that are likely to flow from increasingly frequent and intense climate-related events. Figure 7 shows that the share of OFDA spending invested in DRR hovered around 9 percent between 2003 and 2008. According to notes within OFDA's annual reports, these figures include both cross-cutting DRR investments and investments in an exclusive DRR sector. USAID employees estimated OFDA's 2009 percentage at around 10 percent, or \$74 million.⁷⁴ In fiscal 2010, OFDA's DRR spending rose to \$131.2 million.⁷⁵ Despite these seemingly complete statistics, it is currently difficult to accurately assess and monitor how much the US government spends on DRR because no single office has a mandate to reduce disaster risk (perhaps rightfully so) and because it is integrated into other programs without mechanisms for tracking.

73. Payouts will be made based on satellite imagery and mathematical interpretations of the imagery.

74. Interviews with Stitt and Thomas.

75. USAID-OFDA, "Global DRR Factsheet #1, FY 2010" (Washington, DC: USAID, 2010).

Figure 7. Disaster risk reduction activities as a share of OFDA budget, including cross-cutting activities, 2003–2008.



Source: OFDA annual reports posted at www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/publications/annual_reports/index.html (accessed March 22, 2010).

Note: OFDA reporting of DRR activities may vary from year to year. In 2007 and 2008, the term “disaster risk reduction” is used. In 2006, the term used to define the category is “preparedness and mitigation.” In 2005, it is “preparedness activities.” In 2003 and 2004, the term used is “disaster mitigation and coordination.” Disaster risk reduction (or a comparable designation) in this figure does not refer to an exclusive DRR sector, but includes cross-cutting DRR activities as well.

Without substantial, smart investment in DRR, crises have the potential to dominate the aid landscape in coming years. It is important to remember, however, that even though DRR diminishes the chance that people will face emergency situations if a climate hazard strikes, it will not eliminate the risk completely. Lifesaving emergency interventions will still be necessary, especially as climate change causes increasingly intense and frequent storms, floods, and other events. For example, flood protection bunds around crops in southern Punjab and raised homesteads in Kashmir protected the assets of some Pakistanis during the initial days of the 2010 floods. However, after their community early warning systems warned them that floodwaters would reach unusually high levels, they evacuated.⁷⁶ Now, many Pakistanis who evacuated their homes are receiving international assistance.

In light of the foregoing discussion, how do US humanitarian response capabilities shape up vis-à-vis the challenges posed by climate change?

76. Oxfam Great Britain, organization-wide internal memo from Pakistan office, September 2010.

The strengths and challenges of civilian response agencies

The US government's civilian humanitarian response agencies have unique strengths that will assist them and challenges that will confront them as climate-related disasters, resource scarcity, and instability become more common in the context of climate change. Below, we discuss the key challenges that face civilian agencies. Finally, because of the magnitude of the assistance that the US can fund, it could influence international organizations to operate more efficiently and to plan effectively for the future.

Addressing complex emergencies and disasters, both natural and human-caused, that do not have a conflict component, involves myriad interconnected agencies and organizations – civilian and military – within the US government that are responsible for various aspects of humanitarian assistance. Although the paths of authority within this system are convoluted (see Appendix 1), funding paths are more straightforward (Figure 8).⁷⁷

The United States provides humanitarian assistance in support of national and local governments overseas, often in coordination with many other international and local bodies. OFDA, which is a part of the US Agency for International Development (USAID), coordinates humanitarian operations among US government agencies and actively participates in UN-led sectoral “clusters” that coordinate international response (see below). OFDA has a close relationship with the US military, and stations military liaison officers (MLOs) at US geographic Combatant Commands (for example, the Africa Command – also known as AFRICOM). OFDA also works closely with other donor agencies on a bilateral basis.⁷⁸ In theory, OFDA is the lead US government agency in humanitarian response. In practice, this is often not the case owing to competing mandates and the larger bureaucratic and political power structure. OFDA is subject to the authority of the US ambassador in the field and to policy makers within the executive branch in Washington. These players may prefer to call in the US military as a first resort in some instances, often for public relations

77. An unpublished Oxfam background paper on the authority paths, funding flows, strengths, and weaknesses of the entities that compose this system, is available upon request.

78. Interviews with Linda Poteat, director, Disaster Response, American Council for Voluntary International Action (InterAction), November 2009, and with Stitt and Thomas.

reasons, since troops, planes, and naval vessels offer clear, tangible signs of US support and concern about the emergency.⁷⁹

Other key US government civilian humanitarian aid agencies include USAID's Office of Food for Peace (FFP), the State Department's Bureau of Population, Refugees, and Migration (PRM), and US embassies in disaster-affected countries. The Department of Defense also plays an increasingly large role in both disaster response and humanitarian assistance, most of which is channeled through the Commander's Emergency Response Program (CERP), which implements short-term aid programs, mostly in Iraq and Afghanistan and mostly to win "hearts and minds." In 2008, FFP was the largest player in terms of budget resources, while the Department of Defense's Office of Humanitarian Assistance, Disaster Relief, and Mine Action was the least significant. Much humanitarian work ultimately ends up being done by NGOs and UN agencies (which often implement their activities via NGOs).

Civilian government agencies have certain capabilities for which they are well regarded and that will help them meet humanitarian need going forward. Overall, the US government has not yet codified an overarching, whole-of-government definition of humanitarian assistance. This lack of specificity allows for a broad range of flexible response activities spread across a number of agencies, although certain agencies are subject to various legislative constraints.⁸⁰

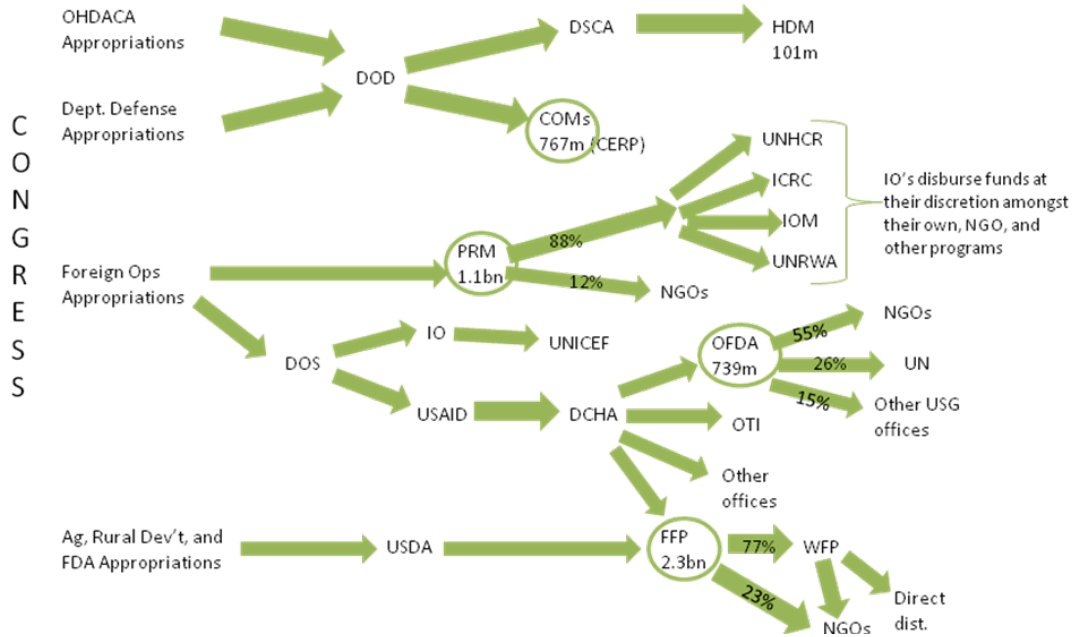
On a well-regarded index rating humanitarian assistance, the United States ranks first among 23 donors for funding for forgotten emergencies and those with low media coverage, and for equitable distribution of funding based on the level of vulnerability; second for timely aid in sudden-onset disasters; third for capacity for informed decision making; and fourth for beneficiary involvement.⁸¹

79. Interviews with Stitt and Thomas; Charles Perry and Marina Travayiakis, *The US Foreign Disaster Response Process: How It Works and How it Could Work Better* (Cambridge, MA: Institute for Foreign Policy Analysis, 2008).

80. Rhoda Margesson, "International Disasters and Humanitarian Assistance: US Government Response," *CRS Report for Congress* (Washington, DC: Congressional Research Service, 2005).

81. DARA International, *Humanitarian Response Index 2009* (Madrid: DARA International, 2009).

Figure 8. Humanitarian funding flows, fiscal year 2008.



Sources: PRM figures represent overseas PRM activities only (total budget was \$1.4 billion) and were provided by Nicole Green of PRM. OFDA figures are from USAID, *OFDA Annual Report 2008*. Food for Peace figures represent emergency commodity activity via Title II and BEHT and were calculated from data in USDA/USAID, *US International Food Assistance Report 2008*; appropriations through USDA are in-kind commodities.

Key

- CERP Commander's Emergency Response Program
- COM Combatant Commands
- DCHA Bureau for Democracy, Conflict, and Humanitarian Assistance
- DOD Department of Defense
- DOS Department of State
- DSCA Defense Security Cooperation Agency
- FFP Office of Food for Peace
- HDM Office of Humanitarian Assistance, Disaster Relief, and Mine Action
- ICRC International Committee of the Red Cross
- IO Bureau of International Organization Affairs
- IOM International Organization for Migration
- NSC National Security Council
- OCR Office of Civilian Response
- OFDA Office of Foreign Disaster Assistance
- OHDACA Overseas Humanitarian, Disaster, and Civic Aid
- OTI Office of Transition Initiatives
- PRM Bureau of Population, Refugees, and Migration
- DOS Department of State
- USDA US Department of Agriculture
- UN United Nations
- UNHCR UN Refugee Agency
- UNICEF UN Children's Fund
- UNRWA UN Relief and Works Agency for Palestinian Refugees
- USAID US Agency for International Development
- USG US government
- WFP World Food Program

Among the civilian agencies involved in disaster response, OFDA is widely viewed as especially competent, effective, efficient, and nimble.⁸² Its rapidly deployable Disaster Assistance Response Teams (DARTs) are well informed in humanitarian response and have strong multisectoral technical expertise. OFDA's military liaison officers have been instrumental in educating military commanders about disaster response, thereby empowering commanders to make smarter decisions about whether or not to respond to an ambassador's request for emergency assistance from military forces. The increasing number of climate-related disasters has recently received growing attention from OFDA. In countries where climate disasters are a regular occurrence, such as in several Latin American countries, OFDA is making a concerted effort to fund early warning systems, vulnerability maps, and local preparedness and capacity building. OFDA proposal guidelines include subsectors related to DRR.

FFP also has a number of important capabilities that it brings to bear in humanitarian response. Working through WFP in emergencies enables the office to operate with a reduced administrative burden and to transfer risk to NGOs, since WFP can absorb very large cash and in-kind grants and engages NGOs as implementing partners. WFP, for its part, has a substantial logistics capability — leading the logistics cluster in international humanitarian operations — and is able to keep delivery costs low. If humanitarian food aid supplies are exhausted, FFP can tap the Bill Emerson Humanitarian Trust, a backup reserve, without having to seek a supplemental appropriation. FFP has also developed a prepositioning strategy to store stocks of donated US food regionally. The office bases decisions about which events to respond to on a substantial evidence base, including assessments from USAID's highly respected Famine Early Warning System Network (FEWSNET), field reports from NGOs, WFP vulnerability assessment and mapping, and requests from national governments. Through FEWSNET, FFP is collaborating with the US Geological Survey and the University of California–Santa Barbara to carry out climate change research and modeling at national and regional levels for use in adaptation planning. Also, at the country level, FFP is actively trying to integrate FEWSNET and disaster assessments into national governments' disaster management.

These capabilities, combined with the sheer amount of assistance the US provides in emergency response, make it a global leader in this field. However, four major institutional and legal constraints hinder the system from operating at optimal capacity, and these constraints will only become more noticeable as human vulnerability increases as a result of climate change. Additionally, future

82. Interview with Poteat.

challenges resulting partly from climate change will emerge, compromising the capacity of the system unless these constraints are proactively addressed.

First, there is currently a major gap in US foreign aid between emergency assistance on the one hand and development on the other. The gap is in the area known as the early recovery or transition period.⁸³ Neither OFDA, FFP, nor USAID field missions, whose budgets are heavily earmarked, have the explicit mandate or resources to take the lead in moving from immediate humanitarian response to long-term development. The gap can be attributed to the budgetary issues discussed below and also to a failure to coordinate development and humanitarian aid providers. The US government does not appear to have an explicit division of labor to address this problem. USAID's Office of Transition Initiatives (OTI) was initially established to work on linking relief and development, but the wars in Afghanistan and Iraq have absorbed a large share of OTI resources for "post-conflict" reconstruction, with a focus on "hearts and minds" counterterrorism and counterinsurgency activities. This focus has left relatively few budgetary resources for true recovery and transition activities.⁸⁴

A constant theme in the discussion of climate change–conflict linkages is the need for humanitarian and development professionals to work together more closely.⁸⁵ If USAID missions and humanitarian agencies could meet in the middle immediately following an emergency, the transition from relief to development could potentially be much smoother.⁸⁶ Because there is no US government agency with the explicit mandate to make livelihoods-related investments following a disaster, the integration of DRR into the practices of both humanitarian responders and development professionals could potentially help ameliorate the situation. As extreme climate-related events increase in frequency and intensity, resilience will become more and more important for people to weather the storms. Resilient populations and households will bounce back quicker after a disaster.

Second, there are structural budget issues. Annual congressional appropriations typically allocate only half of the resources that OFDA uses during the course of a year, meaning that the agency must routinely seek supplemental appropriations. This situation leads to chronic funding shortfalls in the interim and a limited ability to plan for multiyear operations. A massive disaster response operation has the potential to siphon funds from non-emergency DRR and emergency preparedness programs and to decrease the funds available for

83. Ibid.

84. Dane Smith, Jr., *Foreign Assistance for Peace* (Washington, DC: Center for Strategic International Studies, 2009).

85. Messer, "Climate Change and Violent Conflict."

86. Interview with Stitt.

other emergencies until a supplemental funding bill arrives. For example, the October 2005 earthquake in Pakistan left emergency responses in Liberia and the Congo without funding until after the supplemental appropriations bill went through.⁸⁷ Likewise, the huge operation that followed the January 2010 earthquake in Haiti cut into OFDA's ability to conduct operations elsewhere in the world and required the Obama Administration to appeal for urgent supplemental funding.⁸⁸ Expected increases in disasters as a result of climate change will greatly exacerbate this problem.

With the exception of PRM, civilian humanitarian agencies do not have separate accounts for short-term emergency response and protracted crises and planning; such an approach could mitigate issues related to the budget cycle and help address the transition gap. FFP has the ability to draw on the Emerson Trust if there is a budget shortfall and an emergency occurs, but it is small and appropriations are required to replenish it. The current state of affairs does not bode well for proactively avoiding likely increases in humanitarian assistance that will be required as a result of climate change. However, difficulties in investing to help countries reduce disaster risk and prepare for emergencies could be relieved by creating dual accounts – planning and contingency – within OFDA and FFP. Separating emergency and more predictable expenditures, whether for agricultural resilience or assistance in protracted crises, could allow for improved planning and continuity of programs.⁸⁹

WFP is the key implementing partner for US emergency food aid, but WFP is funded entirely by voluntary contributions, which limits its effectiveness. It frequently faces funding shortfalls and must limit rations for people affected by humanitarian crises. As WFP's largest donor, providing about 45 percent of its resources,⁹⁰ the United States could spearhead a movement to create a more insurance-like approach to emergency food assistance. For example, donors could provide food and funds to WFP in advance to enable the agency to serve as a reinsurance mechanism for national safety-net programs in developing countries in times of crisis.⁹¹ Alternatively or additionally, shifting WFP to an assessed funding mechanism, akin to that for UN peacekeeping, would enhance its effectiveness in reducing long-term emergency need. New approaches to

87. Katherine Martin, regional coordinator, OFDA, email communication, March 24, 2010.

88. Interaction email to members, February 2, 2010.

89. Interaction lobby memo, "Reform Priorities in the Humanitarian Sector," 2009.

90. WFP INTERFAIS database, www.wfp.org/fais/ (accessed December 2009).

91. Raymond F. Hopkins, "Responding to the 2008 'Food Crisis': Lessons from the Evolution of the Food Aid Regime," in *The Global Food Crisis: Governance Challenges and Opportunities*, ed. J. Clapp and M. J. Cohen (Waterloo, Ontario, Canada: Wilfrid Laurier University Press, 2009).

funding WFP emergency operations will become increasingly salient in light of the likely food security effects of climate change.

Third, political considerations strongly influence US humanitarian assistance.

According to DARA International's *Humanitarian Response Index 2009*, the US ranks 19th on neutrality (that is, not favoring any party to a dispute) and 22nd on independence (that is, from any political, economic, military, or other nonhumanitarian motives).⁹² Even though the United States carries out need assessments as part of its emergency response, the process for deciding whether or not to provide aid to a country is political, opaque, and top-down. For example, although the United States provided resources for WFP's operations in North Korea in the 1990s and early 2000s, it blocked such assistance in 2007 because of media coverage of that country's nuclear arms program.⁹³ Dynamics of this sort tend to be more dramatic in complex emergencies than in climate-related disasters, where assistance is often perceived as more politically neutral. However, even in climate emergencies, political considerations may determine whether the US military is involved, as was the case in Typhoon Nargis in Burma.

This situation is further confounded by the US government's tendency to add other agenda items onto a needs-based approach – for example, a post-9/11 desire to increase stability and democracy in fragile states. The goals of the US military when pursuing counterinsurgency or counterterrorism and the need for OFDA to operate within the parameters of US policy in such contexts may mean that national security considerations trump impartial disaster assistance to all affected people. When the US military is involved in an ongoing conflict, as in Afghanistan, there can be pressure on humanitarian NGOs to coordinate or work with the military, or even requirements that they do so. Many NGOs believe that, in addition to compromising humanitarian principles, this practice will put them at risk. Therefore they may be reluctant to use their specialized knowledge to provide aid. Separating humanitarian assistance from short-term military and counterterrorism goals, allowing humanitarianism and development to remain in the hands of organizations with such specialties, and enabling NGOs to determine how to manage their own security could lead to better development and long-term security outcomes. Such considerations will be crucial going forward, as climate change leads to increased humanitarian need and heightens the potential for conflict.

Fourth, FFP operates under a number of legal constraints that limit its ability to provide food assistance in a flexible and efficient manner. As climate-related

92. Rankings are posted at www.daraint.org/node/152.

93. Interview with Frank Orzechowski, Catholic Relief Services.

disasters increase, so will the need for emergency food assistance (which might be in the form of in-kind food aid from US harvests or cash provided for local and regional purchase of food). Legally, however, FFP must provide US commodities, which are often more expensive and take longer to get to recipients than local commodities from the recipient country or surrounding region. During 2004–2008, US food aid to Africa required an average of 147 days for delivery compared with 35–41 days for food from the African continent.⁹⁴ Although this problem has been ameliorated to some degree by FFP's effort to preposition food aid at six stations around the globe, it is not clear that the delay issue has been resolved. Also, by law, 75 percent of US food aid shipments must travel on US flag carriers. Although the law permits waivers of this cargo preference requirement in emergencies, in practice FFP seldom seeks these. Cargo preference adds additional costs, allocates scarce public resources toward boosting the profits of a politically influential private industry, and often results in the use of ships that are neither militarily useful (the stated rationale of cargo preference is to maintain a US-flag fleet that the military can use in emergencies) nor, in fact, US-owned.⁹⁵ We calculate that procuring shipping on the open market would permit the purchase and delivery of 15.2 percent more tons of food given a fixed budget.

Since 2008, the US government has acquired limited legal authority to engage in local and regional purchases of food aid in emergencies. However, the budgetary resources available for this practice are vastly smaller than those provided for in-kind food aid. During the first six months after the earthquake in Haiti, for example, the United States provided \$125 million worth of in-kind food aid and less than \$50 million for local purchases.⁹⁶

Meanwhile, partially because FFP remains so strongly tied to the provision of US-sourced commodities and the use of US ships (thereby giving food aid a strong domestic constituency), emergency agricultural assistance (which lacks such an influential constituency) receives much less funding than emergency food aid. This lack of funding for agricultural assistance results in poverty traps and a loss of assets and livelihoods for some households, making it harder for families to return to normalcy following a crisis. During the three-year period 2006–2008, logistics and supplies, health and nutrition, DRR, and water and sanitation received a larger share of the assistance provided than agriculture and

94. US Government Accountability Office (GAO), *International Food Assistance: Local and Regional Procurement Can Enhance the Efficiency of US Food Aid, but Challenges May Constrain Its Implementation Purchase*, GAO-09-570 (Washington, DC: GAO, 2009), www.gao.gov/new.items/d09570.pdf.

95. Elizabeth R. Bageant, Christopher B. Barrett, and Erin C. Lentz, "Food Aid and Agricultural Cargo Preference," unpublished working paper, Cornell University, June 2010 revised version, http://aem.cornell.edu/faculty_sites/cbb2/Papers/Cargo%20Preference%20July%202010.pdf

96. Oxfam International, "Planting Now: Agricultural Challenges and Opportunities in Haiti's Reconstruction," *Briefing Paper* No. 140 (Oxford: Oxfam International, 2010).

food security, shelter, protection, or economy and market systems. In dollar terms, OFDA emergency assistance to agriculture and food security averaged a bit more than \$60 million a year during the period 2006–2008,⁹⁷ compared with more than \$1.5 billion annually in emergency food aid provided through FFP.⁹⁸

This large gap between US food aid and emergency aid to agriculture and food security is worrisome for five reasons. First, it elevates a curative approach over a preventive one. Second, it means that livelihoods may not be restored following a crisis. Third, the period 2006–2008 coincides with the run-up in global food prices, and the global consensus, as embodied in the United Nations Comprehensive Framework for Action, was that increased emergency assistance to agriculture in the affected countries should receive the same priority as emergency food aid.⁹⁹ Fourth, the imbalance mirrors trends in global humanitarian assistance as seen earlier: during the 2000s, donors provided almost all of the food aid requested in UN humanitarian appeals but only half of the agricultural assistance requested, and even less for health, water, sanitation, and hygiene. Overall, during the period 2005–2009, 49 percent of humanitarian assistance provided in response to UN appeals was for food, but the food appeals only accounted for 37 percent of the total amount requested.¹⁰⁰ Finally, given the likely severe impacts of climate change on agriculture and food security, a higher priority to agricultural assistance is urgently needed. Such assistance could help facilitate agricultural adaptation activities, such as switching to more resilient crops and crop varieties, thereby helping to fill in the transition gap discussed earlier.

Beyond these strengths and challenges of civilian humanitarian response agencies, there are times when the US military engages in humanitarian assistance, usually through operations carried out in conjunction with civilian responders. The next section will address the strengths and limitations of the US armed forces in humanitarian response.

97. OFDA annual reports, 2006–2008.

98. Food for Peace, “Food for Peace Fact Sheet 2009,” www.usaid.gov/our_work/humanitarian_assistance/ffp/.

99. High-Level Taskforce on the Global Food Security Crisis, *Comprehensive Framework for Action* (New York: United Nations, 2008).

100. Financial Tracking Service, OCHA, <http://fts.unocha.org/> (accessed March 2010).

A major challenge: Appropriate use of the military in humanitarian response

As the arguments that climate change causes conflict and is a threat multiplier gain traction in policy circles, a tendency to look to the military for emergency response has emerged and will likely grow in the future.¹⁰¹ The US military will likely be drawn into addressing climate-related disasters and complex emergencies in part because of its unique capabilities. Although alternative civilian providers can offer some of the same capabilities as the military – such as construction, food and water provision, and medical care – the US military does have several capabilities that are not found elsewhere.¹⁰² These capabilities can be brought to bear when the civilian sector cannot meet the particular humanitarian need at hand. In Oxfam’s view, the military should engage in humanitarian operations only as an infrequent last resort.¹⁰³ In most instances, humanitarian assistance and community-based disaster risk reduction are best left to organizations and people that specialize in such practices.

The US military’s unique capabilities that can be brought to bear in the delivery of disaster assistance include the following:

- It can quickly and reliably set up complex communications.
- It has coordination capabilities, such as internet and voice connectivity, that it can bring to bear in areas without any infrastructure to support them. In the 2010 response in Haiti, airfield opening and control units were able to reestablish operations quickly at the Port-au-Prince airport.¹⁰⁴ Although others can carry out each of these functions, even in a disrupted environment, the US military can do so quickly and reliably.
- It can quickly deploy and operate large numbers of prepositioned rotary wing aircraft, amphibious vehicles, and robust ground transport that can operate without local transportation infrastructure. The military can rapidly

101. McGrady, Kingsley, and Steward, “Climate Change”; Messer, “Climate Change and Violent Conflict.”

102. Details on military humanitarian and disaster response deployments and their objectives can be found in McGrady, Kingsley, and Steward, “Climate Change.” Much of the information on military capabilities was pulled from this report.

103. Oxfam International, “OI Policy Compendium Note on the Provision of Aid by Military Forces,” www.oxfamamerica.org/files/aid-by-military-forces.pdf.

104. Reuters, “US Takes Control of Haiti Airport to Speed Aid,” January 15, 2010.

move prepositioned supplies and capabilities, and in some cases it can do this faster than WFP. This capability is crucial in large-scale disasters such as in Haiti in 2010 and Pakistan in 2005.

- It has security-related assets that are likely unrivaled by any other military force in the world.
- It has a virtually unmatched ability to operate in an expeditionary capacity, off of ships or unimproved airfields, at a large scale with little or no existing infrastructure.¹⁰⁵
- It has crucial planning capabilities that are highly relevant to dealing with climate change. The US military is accustomed to thinking about, planning for, and training for unpredictable and high-impact events (aspects of what are called “black swan events”¹⁰⁶). Climate change will likely result in many such events.

Some assert that one of the advantages of US military involvement is “budgetary scale.”¹⁰⁷ In fact, in most disaster situations, USAID actually pays the military as a contractor. Also, the military’s budgetary capacity is not unique because funding for much of its humanitarian operations could be shifted to USAID.

Using the military for reasons other than short-term, immediate heavy lift has several drawbacks:

- The military’s top-down command-and-control mechanisms are not suited to using existing community relief mechanisms. Capitalizing on local systems and community capacities in order to develop self-reliance requires other strengths, especially in complex political systems.¹⁰⁸
- Foreign policy and national security goals generally drive military operations, whereas the Principles of Good Practice of Humanitarian Donorship (which the US government has endorsed) call for assistance to be guided by impartiality (that is, based solely on need and the principle of nondiscrimination), neutrality, and independence.¹⁰⁹ Military humanitarian assistance may be biased according to political affiliation or security objectives. This bias is likely to reduce the overall effectiveness of aid by

105. McGrady, Kingsley, and Steward, “Climate Change.”

106. Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007); Peter P. Perla, “So a Wargamer and a Black Swan Walk into a Bar...,” *Phalanx* Vol. 41, No. 4 (Dec. 2008).

107. Messer, “Climate Change and Violent Conflict.”

108. *Ibid.*

109. The principles can be found at www.goodhumanitarianandonorship.org/background.asp.

decreasing the efficiency of aid delivery (helping the most people for the least cost) when compared with a completely neutral approach.

- Although the entry of the US military sometimes provides short-term jobs for local people, the military's presence can create political difficulties for a host government or breed resentment among certain groups and increase political tension that can lead to conflict.
- Related to the preceding point, bringing the US military into a country can have political repercussions, especially for security, and endanger other humanitarian aid providers or the communities with which they work. Humanitarian providers actually prefer to work without security, especially international security, but in certain situations area security is necessary. WFP, for example, prefers to use local security when security is necessary, but occasionally uses UN peacekeeping forces, such as in the Democratic Republic of the Congo, southern Sudan, and Haiti.¹¹⁰

NGOs can use their neutrality and independence as shields to keep them from becoming targets of insurgent or terrorist groups. If the US military is present and NGOs must coordinate with these forces, then this neutrality can be threatened and international aid workers, local aid workers, and recipients of aid can become targets. For example, the 2009 Defense Authorization legislation requires NGOs operating in places with a US military presence to sign a US military register, known as SPOT. While the impact of this change has not yet been determined, NGOs providing humanitarian aid are concerned that it may affect their security.

- Services provided by the military – with some exceptions in cases of logistical support – can sometimes be provided by civilian organizations at a lower cost and in a faster and more effective way. Oxfam researchers have reviewed studies and evaluations of responses to crises – ranging from the 1994 Rwanda crisis to the tsunami – and found that the cost of services provided by the military can be up to eight times higher than the civilian equivalent.
- The US military does not have substantial experience and expertise in understanding the relevant local culture, considering the gender-impact of its assistance, or promoting community participation to ensure that the needs of the most vulnerable are satisfied. Most NGOs have both know-how and experience with all of these issues, which have meant the difference between effective and ineffective assistance in numerous crises.

110. Interview with Allan Jury, director of US Relations, World Food Program, November 2009.

The UN Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief (“the Oslo Guidelines”) affirm that the responsibility for providing humanitarian assistance lies with the affected state and that foreign military relief must not supplant existing relief mechanisms.¹¹¹ Humanitarian and development work are not the military’s core competencies, and, as such, the quality of its aid may be lacking from a humanitarian perspective. Military involvement is generally short in duration. Because of both the expense of deploying military forces and the rotational nature of deployments, the military often leaves an area well before the problem has been fully addressed.¹¹² This lack of long-term presence and community development capabilities means that the armed forces may not grasp many of the cultural and political nuances of a country or region, so military-provided aid may not contribute to the long-term resolution of the emergency and may even hinder it. However, the military is well equipped to provide immediate, short-term disaster relief in disrupted or difficult-to-reach environments if civilian capabilities cannot meet the demand.

There are some mechanisms to help avoid unnecessary US military engagement in humanitarian operations (see Appendix 1 for a figure explaining how the military interacts with civilian humanitarian agencies). OFDA’s military liaison officers have proven effective in promoting coordination and preventing unnecessary military humanitarian missions. However, the military liaison program is sorely underfunded. If MLOs are drawn from multiple theaters to assist in one large response, then another disaster occurring in another region may not have those resources available. This is what happened in September and October 2009, when disaster struck Samoa, the Philippines, and Indonesia concurrently, requiring MLOs from AFRICOM and the US European Combatant Command to go to the Pacific, leaving those commands without humanitarian personnel. In addition, the Department of Defense (DoD) and the American Council for Voluntary International Assistance (InterAction), the association of US-headquartered international relief and development NGOs, together with the US Institute of Peace, have developed guidelines on civil-military relations in humanitarian assistance. Civil-military operations centers also provide a way to coordinate access to military services, such as security, and allow for NGOs and the military to share information.

Limiting unnecessary use of the military may prove a difficult challenge in the future, but fortunately the DoD is part of a larger organism. Although perceived as acting alone in a humanitarian response operation, in reality the US military acts in concert initially with the State Department and ultimately in consultation

111. OCHA, *Guidelines On: The Use of Military and Civil Defence Assets in Disaster Relief – “Oslo Guidelines,”* www.reliefweb.int/rw/lib.nsf/db900SID/AMMF-6VXJVG?OpenDocument (accessed September 21, 2010).

112. McGrady, Kingsley, and Steward, “Climate Change.”

and coordination with other US government agencies. For overseas disaster relief, the lead agency is OFDA, with other agencies providing support. Sometimes, however, the military will act at the behest of a US ambassador and without OFDA leadership. Ideally, it acts when the secretary of state determines that the various host nation and international community responders are overwhelmed, commercial options have been exhausted, and no comparable civilian capability exists. This is similar to how the military becomes involved in domestic operations; in those cases local, state, and federal civilian capabilities are exhausted first. That said, integrating military and civilian agency responses can be challenging, given different approaches and organizational cultures.

By using the US military's relevant strengths as a last resort and addressing the current and future internal challenges faced by civilian responders, the US can be a leader in sheer quantity of civilian disaster response. To be a leader in the political sense, however, it may need to address uncomfortable and difficult questions about how global humanitarian governance frameworks and mechanisms should respond to the humanitarian impacts of climate change.

How might the US improve the international system of disaster assistance?

Given the large proportion of funding for international humanitarian assistance provided by the United States, the US government is positioned to influence international humanitarian governance structures. It has a vested interest in doing so given the projected increases in disasters, food insecurity, vulnerability, migration, and conflict in the context of climate change. In particular, the US could wield its influence to strengthen the UN Central Emergency Response Fund (CERF), improve the efficiency of UN humanitarian clusters, and establish a legal framework for climate migrants.

The United States may be able create incentives for the CERF to improve its effectiveness and respond more quickly to underfunded emergencies and to underfunded sectors. Humanitarian assistance is increasingly driven by the “CNN Effect.” The CERF was designed to balance donor-interested funding of high-profile emergencies by providing resources for underfunded emergency responses and sudden-onset crises. It is a central fund, and its money is not earmarked, except for some resources designated for underfunded emergencies. Many see huge value in CERF in that it funds “orphan emergencies.” However, the United States has only provided modest resources to CERF: the fund provided a total of \$1.8 billion in emergency assistance from its inception in March 2006 through mid-September 2010, but only \$25 million was from the United States.

WFP and the UN Children’s Fund (UNICEF) are the leading recipients of CERF funding, together channeling 60 percent of CERF funds since the fund’s inception. The UN High Commissioner for Refugees, the World Health Organization, and the Food and Agriculture Organization of the United Nations each receive about 8–11 percent of CERF funds (see Table 2).

Given the high likelihood of increases in malnutrition, malaria, and respiratory and infectious diseases as a result of climate change, the CERF should be prepared to meet increasing demands from agencies channeling health funds. As noted earlier, less than half of the total UN health sector and water and sanitation sector appeals were funded during the period 1999 through 2008. US-donated CERF funds could be used to fill these gaps now and in the future.

Table 2. Total CERF funding by agency, March 2006 through mid-September 2010.

Sector	Funding (\$)	Share
Food	505,149,221	28.1%
Health	302,261,810	16.8%
Agriculture	165,683,927	9.2%
Water and sanitation	162,862,065	9.1%
Shelter and nonfood items	160,770,871	8.9%
Multisector	140,525,340	7.8%
Health and nutrition	127,121,842	7.1%
Coordination and support services	62,879,963	3.5%
Protection/human rights/rule of law	61,975,360	3.4%
Other	109,897,180	6.1%
Total	1,799,127,579	100.0%

Source: CERF website, accessed September 20, 2010, <http://ochaonline.un.org/cerf/CERFFigures/SectorsreceivingCERFfunds/tabid/1797/language/en-US/Default.aspx>.

Although CERF is quick to get money to UN agencies, often the funds hit a bottleneck in UN agencies because of slow decision-making processes. During the 2009 crisis involving internally displaced people in Pakistan, for example, money got stuck in the UN system, and bilateral funding, from OFDA in particular, was the only money available during the initial part of the crisis.¹¹³ Given its size and potential large contribution, the United States may be able to create incentives for CERF to improve its effectiveness and respond more quickly to underfunded emergencies and underfunded sectors.

The United States could create incentives to reduce funding bottlenecks. More disasters mean improved humanitarian coordination will become more important. In late 2005, after the release of the UN Humanitarian Response Review (HRR) that followed the massive tsunami response, the United Nations began implementing the cluster approach to humanitarian assistance. This approach was intended to improve sectoral (“cluster”) coordination (for food, nutrition, agriculture, shelter, water, health, education, protection, early recovery, logistics, and other items). Each cluster has a clear lead agency (WFP for logistics, the Food and Agriculture Organization of the United Nations for agriculture, and so forth). The new approach also attempts to fill operational gaps in sectors with unclear leadership in order to clarify needs, identify those who can address needs, and formulate a plan for coherent resource mobilization. After five years of implementation, there are a number of concerns about the cluster system. The sectoral siloing makes implementing valuable cross-cutting approaches, such as DRR, difficult. Depending on the disaster, most DRR takes

113. Interview with Shannon Scribner, humanitarian policy advisor, Oxfam America, November 2009.

place in the “early recovery” cluster.¹¹⁴ Similarly, inter-cluster coordination has not worked well. Some clusters are poorly managed. The system has not drawn on or reinforced local humanitarian response capacity and has sometimes undermined it, despite wide donor agreement that ownership and participation are key principles of aid effectiveness.¹¹⁵

Many smaller NGOs do not have the resources to send people to UN coordination meetings. For them, the incentive for participation may have to be financial. Additionally, some NGOs voice the concern that they are treated as “second-class citizens” in the coordination meetings.¹¹⁶ Meanwhile, critics from the UN side charge that clusters have tended value inclusion over operating efficiency – too many seats at the table leads to confusion, too much focus on process, and a lack of operational decision making.¹¹⁷ It was reported at the 2009 IASC meeting that 50 percent of cluster discussions concerned process.¹¹⁸ Yet lives hang in the balance in humanitarian emergencies.

There is a general consensus that clusters can work well in theory, that there were some difficulties in transitioning to this approach, and that in practice their success depends on the personalities involved. Strong UN leadership and relationships with the host-country government often make the difference. For example, the approach has worked well in recent disaster responses in Asia – in Indonesia, Pakistan, the Philippines, and Burma.¹¹⁹ However, UN leadership can be compromised if the humanitarian coordinator is also the resident coordinator, as both roles are highly demanding and the HC role demands special training and expertise. The US might push for – or fund – an additional position in a country with one person who wears one hat.

Bilateral donors attend cluster meetings to observe, but they do not participate. However, in extreme cases, they may bring deficiencies to the attention of UN headquarters. They may fund NGOs directly or funnel money through the UN system. This is a role that OFDA’s DART members and regional advisors could play in the wake of an emergency if they are given the space to do so.

Recently there has been a tendency to push money through the UN system, especially on the part of the UK Department for International Development and other major donors. The idea is two-fold: (1) there will be an incentive for NGOs

114 Linda Poteat, personal communication, March 2010.

115. Save the Children, *At a Crossroads: Humanitarianism for the Next Decade* (London: International Save the Children Alliance, 2010).

116. Interview with Poteat.

117. Interview with Jury.

118. Report-out at InterAction NGO-Government Humanitarian Coordination Meeting, November 19, 2009.

119. Interview with Scribner.

to participate in the cluster approach to coordination if funds come from the UN; and (2) the UN will have an incentive to eliminate bottlenecks and become more efficient if it is in the spotlight. This effort to channel all money through the UN raises the risk that early funds may not be available.¹²⁰ However, as with CERF, the US could create incentives to reduce the bottlenecks seen in Pakistan and elsewhere.

The United States could lead the development of legal frameworks to tackle the issue of people displaced by climate change. Migration due to climate change poses a legal and humanitarian challenge. At present, there is no US or international legal framework to address the rights of people displaced as a result of disaster, climate change, or other environmental factors. International and US law confer refugee status on people who have crossed borders with a well-founded fear of persecution. Those recognized as refugees are entitled to protection and assistance from the international community. There are weaker international standards in the form of nonbinding “guiding principles” with respect to the rights of people displaced within their own countries under similar fear of persecution; their national government has primary responsibility for protecting their rights, even though in practice it is frequently government policies that drive internal displacement. The IASC has developed operational guidance on human rights in natural disasters.¹²¹ However, this document is purely advisory and does not create any international obligation to assist or protect the affected people.

120. Nikki Bennett, *Missing Pieces? Assessing the Impact of Humanitarian Reform in Pakistan* (Oxford: Oxfam Great Britain, 2009).

121. Elizabeth Ferris and Diane Paul, “Protection in Natural Disasters,” paper prepared for Protecting People in Conflict and Crisis Conference, Refugee Studies Center and Humanitarian Policy Group of the Overseas Development Institute, Oxford University, September 2009, www.rsc.ox.ac.uk/PDFs/session11group5elizabethferris.pdf.

Conclusions and recommendations

As climate change leads to increased and changing global humanitarian assistance needs, reform of the current inefficiencies and organizational challenges inherent in the US government's emergency aid delivery system will become increasingly urgent. There are three key areas in which reforms are needed: developing clearer and more effective leadership of humanitarian response; mainstreaming disaster risk reduction in humanitarian assistance to better address the transition gap and promote disaster resilience; and improving the efficiency and effectiveness of humanitarian tools.

A lead humanitarian agency

US emergency response is politicized and bureaucratically Balkanized. In theory, OFDA is the lead agency, but in practice the State Department and administration political decision makers wield considerable influence over whether and how to intervene in a disaster. Such politicization can waste resources, leave the system overstretched, shrink humanitarian space, and jeopardize the reputations of aid agencies and their ability to deliver assistance in the long run, especially in protracted crises. **Establishing a government-wide definition of, and mandate for, humanitarian assistance might better identify responsibilities and channels for providing aid while also establishing a focal point for the integration of national objectives and aid requirements. Because OFDA has both the needed expertise and relationships with all the relevant actors, it is the best candidate to serve as this focal point.** It should therefore receive the responsibility for deciding – in cases where national security objectives are not involved – whether a disaster response takes place, in what form, and of what magnitude, regardless of the source of funding. Obviously, in humanitarian emergency situations where national security *is* involved, national security policy makers will make the decisions, but OFDA needs to be at the table in such cases as well.

Within the humanitarian community, controversy has surrounded the use of the US military as a first responder rather than a last resort, as the United Nations advises in the Oslo Guidelines. **US military involvement can confuse the political landscape and increase the risks and hurdles faced by other aid providers. In rapid-onset disaster situations, much of the controversy stems from the preference of some American embassies for using the military without consulting OFDA. Making OFDA the lead agency for international**

disaster response will require embassies to coordinate with that office, which would then dispatch the US military if and when appropriate. This change will require expanding and strengthening OFDA's military liaison officer program.

As the lead agency, OFDA would work in close consultation with the State Department and have the mandate to shape the overall process of response, integrating tools from all pertinent agencies in a whole-of-government approach. As part of this leadership role, OFDA should convene a biennial interagency review process to set the framework and strategy through which the US government addresses climate-related disasters and other emergencies. This process would facilitate a coherent approach that engages the comparative advantages of all relevant agencies – for example, the planning capabilities of the military, the famine early warning expertise of FFP, and PRM's deep knowledge of how to address migration and displacement.

Mainstreaming DRR

DRR strategies and risk management are approaches that seek to build resilience and reduce vulnerability. They contribute to climate change adaptation by improving people's ability to cope with extreme events such as droughts, floods, and storms, and they address longer-term issues such as ecosystem degradation that increase vulnerability to these events. **In order to mainstream DRR in US assistance, USAID mission personnel should receive ongoing training that focuses on developing resilience and preparedness among populations that are vulnerable to disasters. DARTs should receive training on how to engage risk-prone communities in vulnerability assessment, and OFDA should require that grant proposals include participatory community vulnerability assessments. Conflict-sensitive approaches should also be integrated into DRR activities as a matter of course.**

The US government should seize opportunities to leverage its grants through programs that seek to scale up successful and proven disaster risk reduction pilot projects. Strategies that have leveraging potential include those that use multistakeholder platforms, use existing public hard and soft infrastructure, have the potential to virally replicate, and spark innovation in the private sector.

Relief and development are inextricably linked in developing countries that suffer from large-scale disasters. However, no U.S. government agency currently has a mandate to carry out transition and early recovery programs. OFDA and FFP have begun to stretch their limited resources to cover this area on an ad hoc basis. **A mandated mechanism is needed to ensure that USAID country missions temporarily scale up the necessary operations in disaster areas to**

meet recovery needs, or at least help restore “normalcy” after the crisis ends. To do this, missions would require more flexibility, fewer budgetary earmarks, and staff with the necessary expertise in transition and DRR. In Washington, USAID would have to break down the bureaucratic silos separating its relief and development units. One way to do this is to change the way DRR is funded, while at the same time providing more resources for preparedness and prevention in support of climate change adaptation. Currently DRR is linked to disaster funding, so its use is limited in the absence of an emergency declaration. **Giving OFDA – which has the most DRR experience within the US government – separate accounts for rapid-onset emergencies on the one hand and protracted emergencies, slow-onset disasters, and DRR on the other would enable it to both plan effectively and remain flexible. This approach would also allow OFDA to carry out preparedness and climate change adaptation work before, as well as after, a disaster.**

A mechanism for tracking whether government grants and programs integrate a significant DRR component, and to what extent they do so, would increase the transparency of DRR spending and contribute to coordination across agencies. It would also help civil society hold the government accountable to its pledges in support of climate change adaptation initiatives.

The US government needs to rethink the sectoral priorities of its disaster assistance. **While health, nutrition, water, and sanitation must remain priorities in light of the likely humanitarian impacts of climate change, more resources must also be made available for emergency livelihood support, including agriculture and food security assistance.** More livelihood support has the potential to help bridge the transition gap.

Ensuring efficiency and effectiveness

OFDA leadership would also help ensure that US assistance conforms with humanitarian principles. This effort is not only about compliance with international humanitarian law and doing the right thing; it also is essential for ensuring the effectiveness of US disaster assistance. Impartiality in aid delivery and adherence to standards of humanitarian good practice would increase agencies’ ability both to meet US national objectives and to assist the greatest number of people in need.

To address increased displacement as a result of climate change, **the United States should lead a global process to develop an international legal framework on the rights of environmental refugees and internally displaced persons (IDPs).** This new focus should not take assistance away from traditional

political refugees and IDPs, but instead provide additional protection and resources for people displaced by climate change and other environmental factors.

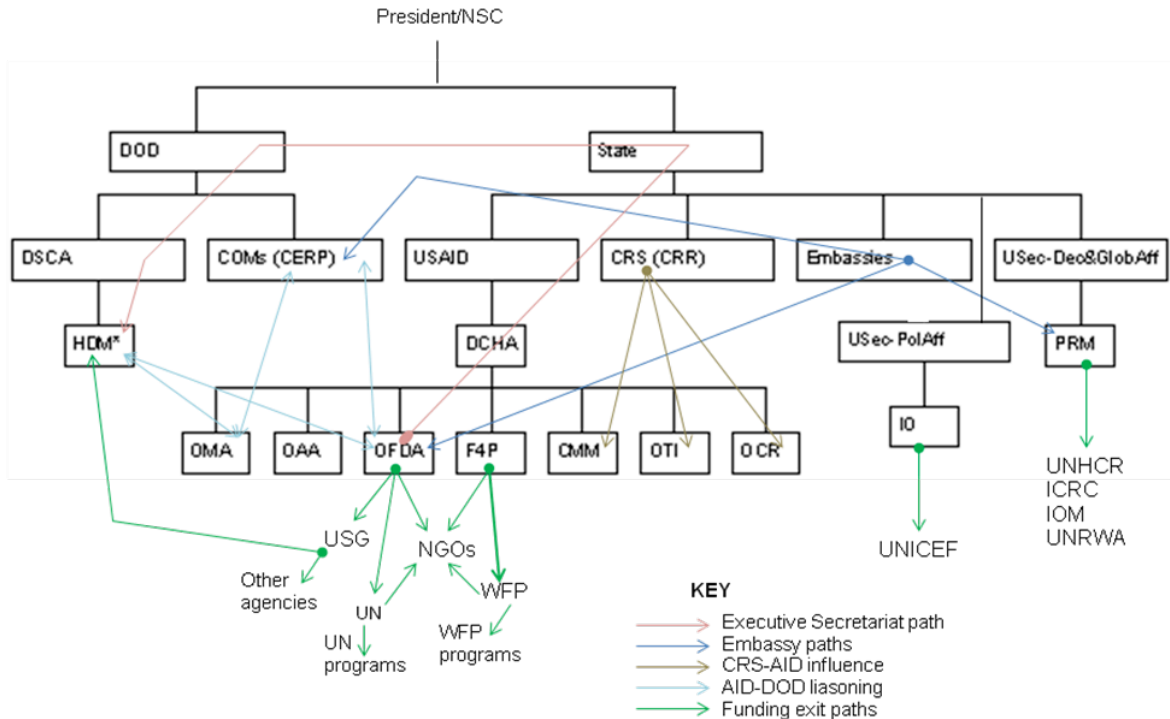
Funding for humanitarian assistance is in need of substantial reform. **Annual appropriations should provide reasonable funding to cover the full year of humanitarian operations.** A cash reserve, similar to the Emerson Trust for food aid, should be established to meet urgent, unforeseen disasters so that the next high-magnitude emergency does not force a drawdown of resources from elsewhere. While supplemental appropriations will no doubt be necessary on occasion, they should not remain a routine semiannual funding mechanism. Likewise, multiyear programming authority should expand to better address protracted crises.

Reforms to US food aid are needed to improve its efficiency as a disaster response tool. **Congress should expand USAID's extremely limited ability to procure food aid in the recipient country and region. When FFP purchases US commodities for emergency food aid, it should have the authority to procure shipping on the open market,** rather than under antiquated and costly cargo preference requirements. Such changes will significantly increase the humanitarian bang of each scarce food aid buck.

Maintaining US global humanitarian leadership

Implementing this reform agenda will both address current structural deficiencies in the US international humanitarian response system and also adapt the system to better meet the increased humanitarian requirements that will result from climate change. With such reforms, the United States will retain its role as the indispensable player in the global humanitarian system.

Appendix 1. Authority paths of the US disaster response system



Key

CERP	Commander's Emergency Response Program
COM	Combatant Commands
CMM	Office of Conflict Management and Mitigation
CRS	Office of the Coordinator for Stabilization and Reconstruction
DCHA	Bureau for Democracy, Conflict, and Humanitarian Assistance
DOD	Department of Defense
DOS	Department of State
DSCA	Defense Security Cooperation Agency
FFP	Office of Food for Peace
HDM	Office of Humanitarian Assistance, Disaster Relief, and Mine Action
ICRC	International Committee of the Red Cross
IO	Bureau of International Organization Affairs
IOM	International Organization for Migration
NSC	National Security Council
OAA	Office of Acquisition and Assistance
OCR	Office of Civilian Response
OFDA	Office of Foreign Disaster Assistance
OMA	Office of Military Affairs
OTI	Office of Transition Initiatives
PRM	Bureau of Population, Refugees, and Migration
UN	United Nations
USDA	US Department of Agriculture
UNHCR	UN Refugee Agency
UNICEF	UN Children's Fund

UNRWA	UN Relief and Works Agency for Palestinian Refugees
USAID	US Agency for International Development
USec Demo & Global Affs	Undersecretary for Democracy and Global Affairs
USec Pol Affs	Undersecretary for Political Affairs
USG	US government
WFP	World Food Programme

Source: Authors, based on literature reviews and expert interviews.

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