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A makeshift encampment of people left homeless in Port-au-Prince, Haiti, by the January 2010 earthquake.

The connection between health and housing becomes strikingly clear after a disaster. The devastation of earthquakes, hurricanes, typhoons and other natural disasters brings sharp focus to the need to get medical services and shelter to victims in a hurry.

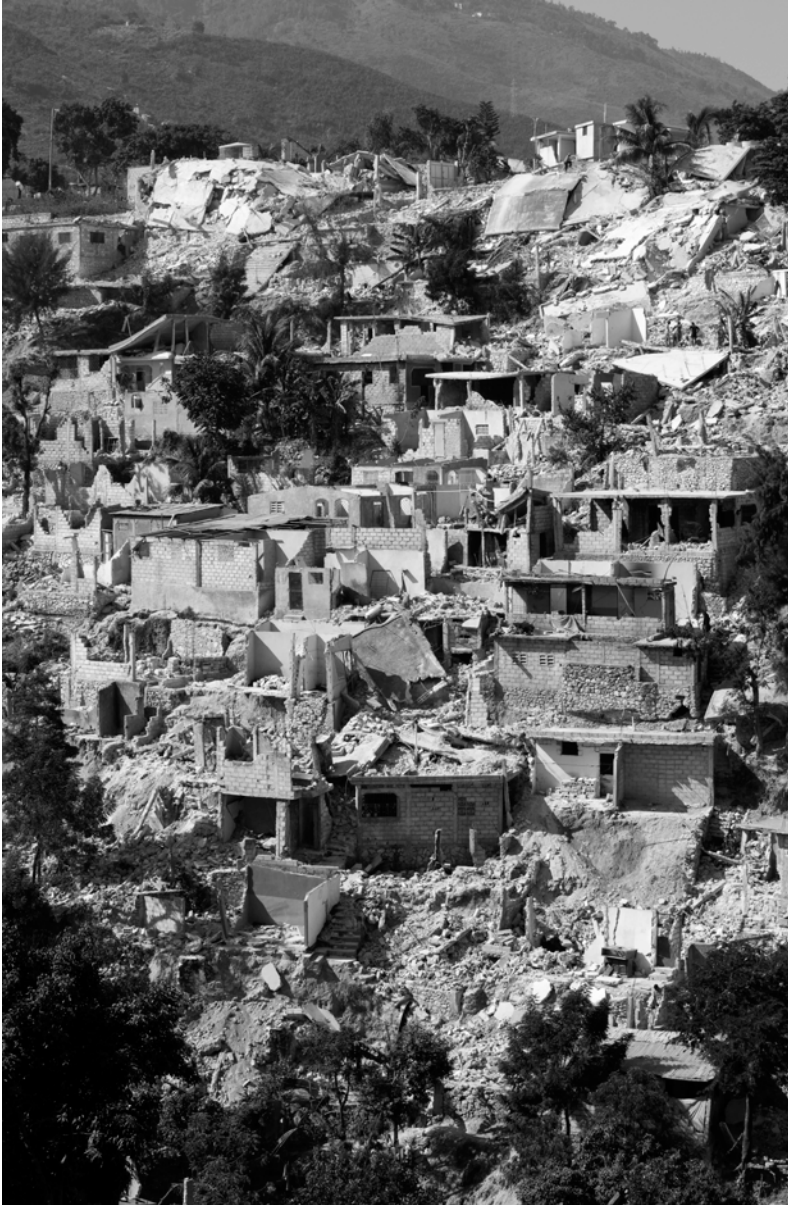
The often-demonstrated willingness of the rest of the world to rush assistance to disaster-stricken regions is noble, but without proper coordination the results can be chaotic and the mission jeopardized once the world turns its attention elsewhere. Moreover, both public health and housing advocates face a much harder and longer-term challenge. They must not just respond to the immediate crisis but also look for ways to secure the health and safety of people living in many areas where disaster is likely to hit again.

From the earthquakes in Haiti and Chile in 2010 to the typhoons in the Philippines, Vietnam and Indonesia, and from the Indian Ocean tsunami to the hurricanes of the Gulf Coast of the United States, natural disasters have taken a profound toll in recent years. Besides the loss of life these events caused, they have left millions with-

Chapter 7

Disasters

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Destroyed houses cover a steep hillside near Port-au-Prince, Haiti. The catastrophic magnitude-7.0 earthquake on Jan. 12, 2010, left almost 1.5 million survivors in need of shelter.

out a place to live—some of them still in temporary arrangements years later—and they continue to complicate efforts to provide adequate public health care to the displaced population.

That's why experts emphasize the need to look beyond the initial emergency response when hurricanes, earthquakes, typhoons and other disasters sweep through regions of the world where they are seen as cyclical occurrences. This is all the more important when a region is already plagued by a poor public health and housing infrastructure.

Contrasts from 2010

The January 2010 earthquake in Haiti and the even more powerful quake that shook Chile six weeks later offer illustrative comparisons.

The devastating magnitude-7.0 quake hit just 10 miles from Haiti's largest and most overpopulated city, Port-au-Prince, displacing 1.5 million people and causing more than 200,000 deaths. Though progress has been made, recovery in Haiti has been slow and complicated.

In contrast, the quake in Chile registered a magnitude of 8.8, but the loss of life was a fraction of that in Haiti: The government estimate was about 500. Building codes and the public health infrastructure in Chile helped reduce the deaths and injuries, and made the provision of transitional housing much easier. However, about 500,000 homes were damaged or destroyed.

In Haiti, the earthquake struck what Scott Dowell, a manager for the U.S. Centers for Disease Control and Prevention's global disease detection and emergency response branch, called "the most precarious public health system in the entire hemisphere. Even before the earthquake hit, Haiti had the lowest rate of immunization for infants, the highest rate of mortality during childbirth, and other serious public health problems."



Habitat for Humanity has built transitional shelters for earthquake victims in the Bercy community in Cabaret, Haiti.

ERZA MILLSTEIN

Beyond the immediate crisis

The initial challenge in both locations was clear: Establish triage centers for the injured, get the population into safe, temporary shelter, and attempt to put some kind of public health structure in place to secure clean water sources and prevent the spread of infections.

But disaster-response teams in Haiti faced an even more daunting task. Although earthquakes are relatively rare in Haiti, hurricanes and tropical storms are not. In fact, Habitat and other NGOs are still helping families rebuild in many areas of Haiti devastated by four hurricanes that struck the country in quick succession in 2008. Some families who lost their homes in the earthquake had only just rebuilt or repaired their houses after the flooding two years before.

Disaster teams knew that the hurricane season was only months away and that any transitional housing created for victims had to be located far from flood-prone areas and capable of withstanding strong winds.

For much of the first six months after the quake, teams from dozens of independent NGOs and foreign assistance agencies have worked

to move people from unsafe and unsanitary makeshift shelters into transitional housing. That process is ongoing. The goal is to put families in a position to adapt their transitional home into a permanent residence, wherever possible.

Moving a family from transitional shelter to permanent placement may take time—perhaps years depending on their finances, the availability of building material and other factors—but all the efforts are aimed at putting the families in safe structures away from the risks of disaster.

Concurrent to these efforts, other service organizations were attempting to get a handle on the health and safety needs of the displaced population. Save the Children and Habitat for Humanity International, for instance, surveyed families in devastated areas together to determine both their health and housing needs. The information they collected helped in decisions about what kind of transitional housing was needed, where it should be—with easier access to child health services, for instance—and whether the family might be able to move from temporary to permanent housing in a reasonable period.

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—Scott Dowell, a manager for the U.S. Centers for Disease Control and Prevention

A pathway to permanent shelter

Disaster-response workers in Haiti and elsewhere have come to understand that the best long-term approach to preventing the devastating effects of natural disasters is to put the families affected by them on a pathway to a permanent, safe home with access to health and other human services not far away.

That means challenging some conventional disaster-assistance methods and attempting new and innovative approaches to long-term recovery.

For instance, housing and health teams in Haiti have implemented lessons learned about sanitation and water quality in other parts of the developing world so that after the population moves into more permanent housing, ground-water supplies won't be jeopardized. These include adopting some eco-sanitation techniques, establishing easier-to-access water lines near new settlements, and making more efficient use of household water. Moreover, it involves teaching Haitians in rural villages and urban areas alike how to manage new water supply systems so that pumps are properly maintained and water is properly chlorinated.

Similarly, construction and reconstruction methods have been adapted to remove the threat posed by the once almost-exclusive use of unreinforced concrete in Haitian roofs and

other parts of the home that could collapse during a tremor. Habitat's resource centers in Haiti are partnering with local block companies to produce new disaster-resistant building materials, such as lighter, more flexible microconcrete that puts less stress on support beams and walls.

And rather than simply packing up a displaced family and moving them to higher ground elsewhere, disaster-assistance workers are trying to establish land ownership and secure tenure rights for families seeking a permanent residence in a safe zone away from the threat of flooding or serious damage caused by storms and quakes.

Experts in the field refer to the process as "holistic" disaster assistance and risk reduction. In many ways, it is not unlike the process health and housing advocates have come to embrace in poorer parts of the world where the risk of natural disasters may not be high, but the threat of disease from inadequate housing and improper sanitation remains very real.

The goal for housing and health advocates responding to nature's destructive power has never really changed: move quickly to mitigate the death and displacement that always accompanies such disasters. But now that mission has become even broader: being prepared to deal with it when it happens again.



EZRA MILLSTEIN

Rose Flore Charles holds her 2-year-old daughter, Guallina Delva, in Léogâne, Haiti.

THE HEALTH-HOUSING CONNECTION

Haiti: ‘Thirsting’ for healthy shelter

For five months after the earthquake, Rose Flore Charles and her three young children slept in a makeshift structure Charles built using bed sheets and scraps of wood and metal. The family’s Léogâne apartment had collapsed in the quake. The improvised shelter was the best protection Charles could provide for her sons, Joverson, 6, and Kelvens, 5, and daughter, Guallina, 2.

In Haiti’s rainy season, which brings even more malaria-carrying mosquitoes, Charles’ children suffered. “Sleeping in the old shelter, the rain always got in,” she said. “We had to go to the health center and ask for help when their fevers got very bad.

“It was a difficult time, sleeping like this, not being able to care for my children and worrying about their health.”

As Habitat for Humanity staff assessed needs in Léogâne, a city nearly 90 percent destroyed by the quake, they noted which families were most vulnerable in terms of health and security. In June 2010, Charles’ family was among the first in her neighborhood to receive a Habitat transitional shelter.

The new wood-frame shelter is reinforced with crossbeams, metal strapping and foundation posts anchored in concrete. The shelter’s galvanized tin roof and other materials can be disassembled and used in building a permanent home.

“I am thirsting for this house,” Charles said as she helped build the shelter with local, Habitat-trained workers. “I am most happy about having a better shelter to protect from the rain. The rain is too bad where we’ve been staying. It’s getting worse.”

The need for dry, healthy, transitional shelter in Haiti remains urgent. Every day spent building these shelters is a race against time, against hospital visits, against future storms.

Charles knows this race well. On a Sunday, one day before moving into the new Habitat shelter, Charles attended church with only two of her children. Her oldest son had to stay back with relatives. Joverson had a fever again.