Unnatural Disasters: Rethinking the Distinction between Natural and Man-Made Catastrophe

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Donors are particularly adamant that their donations be spent to good effect.

While Romero and others fully understand and support that sentiment, there is also an awareness that humanitarian agencies have an obligation to respond wherever the need is greatest. That may involve civil conflicts or complex emergencies.

“A child is a child, no matter what the cause of the event,” Romero says. “The impact is still the same.” She stresses that the importance of investing in a locale torn asunder by war or civil conflict cannot be underestimated, because it lays the foundation for a better postconflict environment.

At the moment, Romero says her organization’s work in Syria is reaching some 400,000 persons, and its presence in the strife-torn eastern part of the Democratic Republic of the Congo has been equally large and sustained. But she doubts most of the U.S. public know anything about the country, yet it is work that needs to be done.

“I haven’t given up,” says Braaksma of the Presbyterian Church USA. She and others are undergirded in their work by what Lisa Szarkowski of UNICEF calls the baseline for the humanitarian community: “Human suffering is the same no matter what the cause. All lives are of equal value.”

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THE DISTINCTION BETWEEN so-called natural and man-made disasters has grown increasingly difficult to defend. Earthquakes, hurricanes, tsunamis, blizzards, floods, tornadoes, mudslides, volcanic eruptions—such extreme events present powerful examples of what are quintessentially natural phenomena. They reaffirm the notion that ours is, indeed, a living planet. Yet we tend to think of such extreme events as anomalies, rare and extraordinary occurrences outside the boundaries of normal. That is to say, ironically, on some level, we perceive natural disasters as unnatural.

In one respect, this perception is absolutely correct: there is in fact nothing natural about the so-called natural disaster. Our current conception conflates extreme natural events with disaster, which is an exclusively human construct. The distinction between the two—an otherwise natural event and a so-called natural disaster—lies in what I have identified as the three key variables of disaster, the three Vs: values, volition and vulnerability.

Geographer Kenneth Hewitt argues that, “[a] natural force is not dangerous in itself but becomes so in relation to human activities and human values.” Only when a spontaneous natural event takes human life—or destroys those things to which humans attach economic, social or cultural value—does the otherwise perfectly natural occurrence transform into what we would describe as a natural disaster.

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Granted, we measure hurricanes on the Saffir-Simpson scale and earthquakes on the Richter scale, but we weigh their true significance according to the scope of the destruction they inflict—the degree to which they diminish the things we value. For this reason, some international experts have argued for a more people-centered approach to risk assessment with a focus on predicting impacts rather than the frequency and magnitude of extreme events. Such an
Disasters also function as a function of human volition. Disaster reflects choices we make. Our choices play a role not only in engendering disaster risk where none would otherwise exist, but also in exacerbating the impact of the otherwise natural forces we associate with disaster.

Often the causal link is clear, for example when villagers deforest a hillside, creating the conditions for a subsequent mudslide.

At other times, the link is more elusive, as with the observed recent increase in extreme weather conditions where it is difficult, if not impossible, to isolate human-driven climate change as the “but-for cause” of any specific event—the cause without which that individual event could not have occurred.

Nonetheless, while demonstrating the causal link with respect to any given environmental disaster may be a fool’s errand, evidence indicates that in the years ahead, climate change will increase both the overall frequency and intensity of natural disasters. Indeed, recent findings strongly suggest that the problem is at least twice as bad as we had previously thought. In the journal Science, Paul Durack predicted future acceleration of the global water cycle by as much as 24%—a grim finding which, if true, would herald increasingly extreme weather conditions that could dry up many of the world’s richest agricultural areas, and, conversely, inundate already wet regions with hammering rains and floods.

While climate change hangs ominously over the future, the mudslide example above illustrates that the role of human agency goes well beyond climate change. Disasters implicate a broad range of decisions we make about, among other things, technology, agriculture, urban planning and consumption. Increased urbanization, global migration trends and the growing concentration of human and economic activity along coastlines, river deltas and other disaster-prone areas increases our exposure to natural hazards, almost inviting disaster.

So when the next disaster strikes, remember it is not because the earth shook, but rather because we humans chose to build upon the fault line.

One corollary of human volition is technology, a capricious variable that humans have rather carelessly interjected into the disaster equation. Technological inputs often compound existing natural hazards, thereby creating a mix of causal factors that catalyze or intensify disaster. In some cases, technology triggers the disaster; while at other times, a natural hazard plays this role. In either scenario, when it comes to disaster, technology and nature seem to enjoy a symbiotic relationship.

When natural hazards and human technology collide, the devastating results can overwhelm even the most advanced societies.

For example, fatally flawed human technology triggered the 2010 Deepwater Horizon oil spill, creating a major environmental catastrophe that despoiled the Gulf of Mexico. Conversely, nature triggered the 2011 Tōhoku earthquake and tsunami, which, in turn, led to the crisis at the Fukushima Daiichi nuclear power plant.

When natural hazards and human technology collide, the devastating results can overwhelm even the most advanced societies. With respect to the Tōhoku disaster, Eamon Gilmore, an Irish Labour Party official, observed that while, “Japan is probably the best equipped country in the world to deal with [such] major disasters … the fact that it has been obliged to deal with three major emergencies simultaneously—an earthquake, a tsunami and a nuclear crisis—[has pushed its response capacity] to the limit.”

As we introduce yet further technological variables into our complex disaster calculus, the future will undoubtedly bring more multidimensional, Tōhoku-like catastrophes our way.

Finally, disaster is a function of vulnerability. In fact, the increase in natural disasters over recent decades may be due less to ecological change and more to the increased vulnerability of the human population. While physical proximity and exposure to natural hazard increases vulnerability, a lack of adaptive capacity is the main factor behind what Hewitt calls “hotspot[s] of human vulnerability.”

While vulnerabilities vary from one society to the next, they always bear a direct relationship to the character of loss. An earthquake in Asia, with its poor and densely populated cities, will produce inordinate loss of life; while a similar earthquake in North America, with its advanced urban-industrial infrastructure, will produce inordinate loss of wealth. Impacts are determined not by the destructive character of the event itself, but rather by the potential losses to which we are vulnerable.

Even within a given society, the character and magnitude of loss varies from one group to the next, with disaster amplifying entrenched social inequities—for instance, disproportionately shortening the life expectancy of poor women relative to poor men from the same cohort. Like gender, wealth closely correlates with vulnerability, as vividly demonstrated by Katrina, which ravaged the downtown segments of New Orleans society with what we can only characterize as targeted precision.

As the global population swells and income/asset inequality expands, the absolute number of poor among us increases while the relative number of rich decreases. The result, as Hewitt observed, is that the unsafe are becoming more vulnerable, while the safe are getting safer.

In short, natural hazard plus human vulnerability equals disaster.

Thus, three functional relationships challenge our current cultural perception of so-called natural disasters. First, our values characterize the scope and scale of loss. Second, our volition exacerbates otherwise benign hazards, exposes us to otherwise avoidable hazards, and, through technology, generates new and otherwise nonexistent hazards. Finally, when natural hazards...
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