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Not My Fault: The challenging art of communication during disaster

Lori Dengler/For the Times-Standard
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This week I got a small taste of the virtual classroom. I did a short guest presentation in the Geology Department's capstone geoscience course. What I've missed most in retirement is the contagious energy and enthusiasm of students and, even from behind a computer screen, it was great to see and listen to them again.

The HSU Geoscience degree is aimed at students interested in teaching or careers in environmental, resource, and hazards management and policy. The top learning objective in the program is effective communication to both scientific and general audiences. I was asked to introduce the subject and discuss some of the Redwood Coast Tsunami Work Group outreach efforts.

I couldn't cover very much in my half hour with the class, but it got me thinking about why communicating about disasters is so problematic. I'm addressing this and the next column to those students for a broader perspective on a few of the things I've learned during over 40 years of attempting to communicate disaster information.

The first step is to determine what action you want people to do as a result of your information. During an earthquake, we want people to Drop, Cover and Hold On. When a hurricane approaches, people need to evacuate. During a pandemic, wear masks and keep social distance. There are disaster-specific messages and different messages for before, during and after. The list quickly becomes long and complicated.

Having an idea of what you want people to do is only a starting point. How do the people you are trying to reach get their information and whom do they trust? I became aware of these questions in 2005 when I was part of a post-tsunami survey team in Indonesia. Our group was pondering why almost all the Simeulue Islanders had survived the 2004 tsunami, when other groups, many who had more time to get out of harms way, did not.

Simeulue is an island off the northern coast of Sumatra. It is remote and Langi village where we visited had no electricity, running water or quick means of communication with the larger world. It was a stable community, tracing back at least 5000 years. Information was passed down through oral history and the most respected members of the community were the elders. People looked to the elders for cues on what to do. If the elders said run to high ground after feeling an earthquake, no one would argue if this was a good thing to do or not.

The areas we studied on Sumatra were much different. Repeated migration and displacement of ethnic groups meant many residents at the time of the tsunami had lived there less than a century. Sumatrans were connected through cell phones, Internet, television and the same conveniences of our world. Most of the people we visited in the Sumatra towns had perished in the tsunami so we were not able to study on how people received information. My Indonesian colleague Gegar Prasetya speculated that their traditional tribal systems had broken down and they, like us, were now bombarded with many different sources of information with no clear path to follow.

Take a moment to think about where you get your information and who do you trust. Everyone starts from with own experiences. If you have been through previous floods, winter storms or earthquakes, you will instinctively factor that into how you perceive threat and how to respond. The problem is when the next event is different from what you have been through in the past, or, like the coronavirus, something entirely new. In another post tsunami survey study (Chile 2010), we found most coastal residents were very aware of the tsunami hazard and quickly headed to high ground. But one group told of us neighbors who reasoned than the 1960 tsunami hadn't been very large where they lived and chose to stay put. They didn't survive. Your past experience doesn't always prepare you for the next one.

I use science as my basis for decision making. Hazard studies over the past decades have made clear the best options for reducing losses from most threats such as structural design to prevent buildings from collapsing in earthquakes or warning systems for floods and distant tsunamis. But technology alone can't make societies safe.

Bruce Bolt was one of my professors at Berkeley. When I first met him in the sixties, he was convinced that engineering was the solution to the earthquake problem. If all structures were built to resist failure, the public really didn't need to understand the threat. But in the process of serving on the California Seismic Safety Commission for 15 years and working to improve public safety, he realized that without public support and

understanding, implementation of stricter building codes would not happen. He became an outspoken supporter of public risk communication. I consider his books, starting with Earthquakes a Primer (1978), the gold standard for communicating basic earthquake hazard information.

Professor Bolt was a great advocate for disseminating scientific and engineering information in a way that could be understood. He was a rigorous mathematician and I remember his classes as non-stop equations. But, unlike some other scientists I have known, he never disparaged nonscientists. That was an important take-away for me, to always respect your audience. Being able to relate complex information in a more straightforward way isn't 'dumbing it down,' it just means you fully understand it.

Technical content is just the beginning of the hazard communication story. After the 1992 Cape Mendocino earthquakes, I began going to hazards conferences where I became aware of disciplines studying how humans respond, process and adapt to disasters. More on why human behavior in disaster communication is every bit as important as technical content next week.

Note: Read more about what happened on Simeulue Island at https://kamome.humboldt.edu/sites/default/files/smong_eqspectra_0.pdf

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Lori Dengler is an emeritus professor of geology at Humboldt State University, an expert in tsunami and earthquake hazards. All Not My Fault columns are archived at https://www2.humboldt.edu/kamome/resources and may be reused for educational purposes. Leave a message at (707) 826-6019 or email Kamome@humboldt.edu for questions/comments about this column, or to request a free copy of the North Coast preparedness magazine "Living on Shaky Ground."

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