

Times Standard

Not My Fault: Recovering from a disaster is the hardest part

Lori Dengler for the Times-Standard

Posted September 12, 2026

<https://www.times-standard.com/2026/09/12/lori-dengler-recovering-from-a-disaster-is-the-hardest-part/>



Three Google Earth views of Rikuzentakata, Japan, are shown. The left is from 2010, when the population was 23,302 and most of this area was residential. The center is from 2011, two weeks after the tsunami that claimed 1,656 lives in the city and destroyed 80% of residential housing. The physical reconstruction is nearly complete in the 2026 image on the right, but much of the area is now zoned for agriculture and the population has fallen to 16,418.

It's impossible to avoid "disaster" these days. With the 25th remembrance of September 11, 2001, terrorist attacks flooding the news cycle, recent events, and dire warnings of this year's El Niño, we are surrounded. The impacts of every disaster are not just in the seconds, hours, days, or months over which the physical assault occurs, but in the roots of each community formed years beforehand and how it handles it afterwards.

All disasters can be looked at through the lens of a cycle that begins long before the earthquake, flood, fire, or other attack occurs. Sometimes called MITIGATION or prevention, this first phase involves actions such as enforcing building codes, constructing levees, implementing warning systems, and education to reduce impacts before anything has happened. Immediately following the event comes RESPONSE actions such as assessing damage, search and rescue, putting out fires, triage, and emergency sheltering needs. As the situation is stabilized, response transitions into longer term RELIEF efforts with temporary housing, restoring essential infrastructure, and providing counseling and longer-term medical care.

The longest and most expensive phase in the disaster cycle is RECOVERY. This is the period of building back and establishing a new normal. It involves many pieces from permanent debris removal, rebuilding damaged lifelines, reconstruction of residential and business structures, and restoration of the economy. Recovery is the most complex part of any disaster because each event is different, there is no clear blueprint to follow, legal/bureaucratic roadblocks are everywhere, and it may take decades. It's a long, costly slog rarely garnering media attention except during anniversary remembrances.

The disaster cycle is not linear, all of these phases blend into one another and how well you do in one, affects how difficult it may be to accomplish the next. Recovery planning needs to be front and center in the pre-event period. The best way to speed up and improve recovery is to take preventative actions and to develop recovery guidelines long before an event occurs.

We tend to frame disasters in the U.S. as a management issue. FEMA is the Federal Emergency Management Agency, in California we follow Standardized Emergency Management System (SEMS), and NIMS (National Incident Management System) is the nationwide version for emergency and disaster response. Our national and state focus has been primarily on efficient responses to disasters once they are underway. It has become (arguably) the best mass-scale response system in the world.

Other parts of the world are much more likely to put their focus on disaster prevention or reduction. UNDRR is the United Nations Office of Disaster Risk Reduction and bases many of their activities on the Sendai Framework for Disaster Risk Reduction adopted in 2015. It mandates that countries shift their focus from disaster management to identifying vulnerabilities before events occur.

Japan's Disaster Prevention Research Institute in Kyoto was established in 1951 and is one of the foremost organizations in the world for studying all aspects of disasters from physics and engineering to societal response. When I first heard the name, I thought it a little odd, thinking disasters were a fact of life and couldn't be prevented. I've changed my tune. Disasters will happen, but the actions taken before they occur can significantly reduce impacts.

The best way to improve disaster recovery is to reduce the impacts. I learned this lesson in a visceral way when I was part of a post tsunami survey team in the hardest-hit areas of Indonesia. Our team arrived three months after the 2004 Indian Ocean tsunami and spent nearly two weeks on the Aceh coast of northern Sumatra coast where casualty rates were upwards of 90%. We saw very few people during that time, an occasional solitary farmer searching his homestead, but mainly the detritus of communities obliterated. It was a painful environment to work in.

Our last stop was Langi Village on Simeulue Island just off the coast of Sumatra. Langi was the community closest to the epicenter of the 2004 earthquake and the tsunami arrived only eight minutes after the shaking started. I fully expected to see similar scenes of devastation as on Aceh. The tsunami was nearly as high here and had swept away all of the buildings.

What a surprise when we landed. Instead of emptiness, we saw a rebuilt village and were greeted by the whole town. Not a single person had died because of their oral traditions that ground shaking means go to high ground and stay there. This is a village with no electricity, yet it was well on its way to a full recovery for the simple reason that everyone survived. We faced the pleasant problem of doing field work surrounded by people asking questions about what we were doing and why.

Saving lives is the number one priority in disaster reduction. The physical losses in Langi village were great. Everyone lost their homes and nearly all of their physical possessions. They lost

their farming lands and many of their animals. But the people lived and were able to quickly rebuild when aid groups supplied the materials.

I've developed a close relationship with the city of Rikuzentakata in Japan's Iwate Prefecture. I first visited the City in May 2011. Megumi Sugimoto, then with Tokyo University's Earthquake Research Institute, and I spent ten days along the Tohoku coast looking at factors that exacerbated or reduced losses in the Great East Japan earthquake. The last place we visited was Rikuzentakata and I hurriedly took photos of everything I could see, including Takata High School.

Rikuzentakata didn't stand out to me until two years later when the small boat Kamome beached in Crescent City. The boat belonged to Takata High School and was used to teach students to dive and work around harbors. It wasn't in use when the tsunami hit, and its loss was barely noticed in the aftermath. That beaching in Crescent City led to connecting the high schools in Del Norte County and Rikuzentakata, the return of the boat, and a sister city relationship that continues to this day.

Rikuzentakata provides a case study of the difficulties of recovery from an unimaginable disaster. Before the 2011 tsunami struck, Rikuzentakata was a coastal community of just over 23,000 people. Prized for its oysters, the economy was based on aquaculture, fisheries, and agriculture. The tsunami killed 8% of the residents, destroyed 80% of residential housing, almost all of the commercial and government buildings, erased farmlands, and severely damaged the port and aquaculture beds. City Hall received a direct hit and over 30% of the public work force died. The loss institutional knowledge and civil expertise created enormous challenges for relief logistics and recovery planning.

Today Rikuzentakata is considered nearly "recovered." The debris is now long gone, new housing has been built outside of the tsunami zone, a new commercial area has been built on a 30-foot higher platform, using fill derived from topping off a nearby mountain. The oyster beds and seaweed farms are back in business. Ironically, the tsunami improved the marine ecology by dredging of Hirota Bay of centuries of sludge and toxic organic debris, but there are far fewer people here now to work in aquaculture. Many families left after the tsunami because of the lack of housing and jobs. The current population is 16,418 and is projected to continually decline over the next decade.

One can never completely return to the way things were before a disaster. But emphasizing things we can do to prevent losses in any imaginable event before it happens, and putting resources and effort into planning recovery can make that road smoother.

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