



Photo courtesy of Gloria Duffy

## Preventing Disaster

### Dr. Gloria C. Duffy

President and C.E.O.

**O**n March 15th, The Commonwealth Club held its 108th annual dinner, a fundraiser honoring the Bay Area's most distinguished citizens. This year, in addition to recognizing business and philanthropic leaders, the Club hosted a wider group of 50 of the Bay Area's most interesting people, seating one of them at each of the tables at our dinner. We titled the event "A Room with Views," a play on the title of the E. M. Forster novel, referencing the Club's role in ensuring that many views are expressed and debated on important issues. Instead of a program on stage, dinner patrons discussed with each of their table guests their area of expertise, ranging from former San Francisco Mayor Willie Brown to San Jose Ballet Director Dennis Nahat.

In light of the recent tragic earthquake in Japan, I want to highlight one of the Club's interesting dinner guests. Dr. Brian Tucker was principal state geologist for the California Geological Survey when a light bulb went on for him. As he monitored earthquakes around the world, it struck him that with relatively minor advance planning and expenditure of funds, most of the loss of life and destruction that typically results from these natural disasters could be avoided.

So in 1991, Dr. Tucker founded an independent nonprofit organization, GeoHazards International (GHI), to educate about, promote and implement preventive measures to avoid damage from earthquakes and tsunamis around the world. With their mission "to reduce loss of life and suffering around the world in communities most vulnerable to geologic hazards," he and his colleagues work in countries from Ecuador to India, where earthquake risks are high and preparation to deal with them is poor.

I met Dr. Tucker a few years ago, when the Civilian R&D Foundation, whose board I chaired, gave him the George Brown Award, named for the late California congressman who chaired the House Science and Technology Committee. Dr. Tucker was recognized for his role in creating a much greater level of international scientific collaboration in his field. Later I visited GHI, which operates out of a small office in the Town & Country Shopping Center in Palo Alto, across El Camino Real from Stanford University.

Operating on the basis of the old but wise saying that an ounce of prevention is worth a pint of cure, GHI has developed steps

that cities, regions and countries can take to minimize the effects of earthquakes and tsunamis. They have identified the areas of the world most at risk, including Indonesia, Turkey, India, the Pacific Coast of North and South America, and, sadly, Japan. They hold workshops in these regions to educate leaders – media, local government officials, teachers, businesses – about the risk and potential damage from seismic events. They work with local communities to produce an action plan for their area and to establish regional disaster management agencies. They have linked earthquake management experts in various countries together through an online network. They work with schools and hospitals to design their new buildings to withstand quakes, and to upgrade current structures.

Perhaps most significantly, Dr. Tucker and his colleagues offer simple solutions that could save many lives in case of disaster. For example, in Sumatra, where earthquake and tsunami risks are particularly high and more than a million residents are at risk, they are promoting "vertical evacuation structures," reinforced concrete structures or earth mounds elevated above the level tsunamis would reach, close to coastal population centers, where people could flee to safety before a tsunami hit. Some people were able to survive the 2004 Indian Ocean tsunami by fleeing to such structures.

In so many areas of life, anticipating problems and taking steps to address them before they become crises is much more effective than trying to deal with the damage after disaster strikes. Tucker and his colleagues observe that damage from quakes and tsunamis is very predictable, with the areas and nature of the damage well known. They say that millions of people and billions of dollars in assets could be saved simply through the proper planning and preparation in the regions most at risk.

While perhaps a simple problem scientifically, improving seismic preparedness is a complex social problem. Multiple institutions and groups need to cooperate in a particular region to put safety measures into effect. So GHI doesn't stop at bringing their scientific expertise to bear on this problem. They actively coordinate the institutions and people who need to collaborate to make preventive action work.

The terrible quake and tsunami in Japan underline the importance of GHI's work. When you have a chance, visit their web site, [geohaz.org](http://geohaz.org). Or even better, stop by the shopping center in Palo Alto to learn about what these dedicated scientists are doing to prevent tragedies like that in Japan. Ω

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