Will Berkeley Be the Next Haiti?

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Americans who have been shocked by the devastation in Haiti may be surprised to know that a similar catastrophe is coming soon to America--and virtually nothing is being done about it.

Nearly two million people lived near Port-au-Prince. Nearly seven and a half million people live within a few miles of the Hayward fault, which runs the length of the San Francisco East Bay hills. The Haiti earthquake, which killed perhaps as many as 200,000 people, was a 7.0 on the moment magnitude scale (the familiar Richter scale is not used for large quakes). The earthquake anticipated on the Hayward fault will exceed 6.7 on the moment magnitude scale. In both Haiti and the Bay Area, large populations live on dangerous faults.

The location of the Hayward fault is no secret. In fact, its signature is scrawled across hundreds of buildings, whose cracked foundations and offset street curbs bear silent testimony to the impending tectonic violence. The fault slices the St. Regis Retirement Center in Hayward. The fault cuts the Fairmont Hospital in San Leandro and the Bay Area Rapid Transit station in Fremont. When the fault goes, we can expect about 6 feet of offset in a few seconds.

The most infamous fault trace is exposed on the campus of the University of California at Berkeley. Berkeley's football stadium is neatly bisected by the fault. On its southern wall, one can clearly see the two sides of the stadium pulled apart several inches by the fault creep. The support columns underneath the stadium have also been offset and tilted, weakening their ability to hold up the southern end of the stadium.

You would think that given this situation, Berkeley would not want to continue to use such a dangerous structure--and you would be wrong. On January 19, 2010, the UC Board of Regents decided to begin an extravagant renovation of the stadium, at an estimated cost of $321 million--this in a time of unprecedented budget cuts for non-athletic programs.

As tragicomic as the stadium situation is, a more serious danger involves the homes which straddle the fault almost its entire length. You would think that if you were a potential home buyer, your real estate agent would be legally obliged to disclose to you that your home was being torn apart by an active fault--and you would be wrong.

Once, while I was leading field trip of university students to see the Hayward fault, a curious homeowner came out to ask me what we were all doing in front of his house. I told him that the cracks around his windows were not the result of the house "settling"; his house sat directly on a moving section of the Hayward fault. This homeowner, who had recently purchased this house, had received no disclosure.

You would think that given the dangerous intersection of so many people living so close to a big fault, government agencies must be doing something to prepare for this--and you would be wrong. Governments are doing so little, in fact, that only last week did the mayor of San Francisco finally begin to consider requiring building owners to retrofit vulnerable "soft story" buildings. In San Francisco, there are approximately 5700 soft story buildings, housing about 180,000 people. Without retrofitting, these buildings are unlikely to survive a major quake.

We can look to Haiti to see what people need in the aftermath of a devastating earthquake: shelter, medical care, food, and most of all, water. People can go a long time without food; without water, people will die in a matter of days. It would make sense to begin massive stockpiles of water and other essentials in strategic locations throughout the Bay Area. Given the budgetary earthquake shaking Sacramento, however, California is not about to start funding such good ideas. Some people wisely stockpile at home, but with the likely destruction of the water, sewage, electrical, and transportation infrastructure in the Bay Area, small stockpiles may not last until the tap begins to flow again.

Politicians often talk about preparedness as a matter of public information, but in this case there is no shortage of information. The excellent website of the Association of Bay Area Governments, http://quake.abag.ca.gov, shows in detail areas vulnerable to shaking, liquefaction of the soil, and flooding from ruptured dams. The USGS hosts a Google Earth map showing the exact location of the Hayward fault (http://earthquake.usgs.gov/regional/nca/haywardfault/).

Information only goes so far; if we are to prevent a repeat of Haiti in the United States, actual preparation is needed now.