

## **Engineering and Emergency Response: Power, Privilege, and Prevention**

Donna Riley, Smith College, United States

For class on July 7, we will consider two large scale disasters that occurred in 2010: the earthquake in Haiti and the BP Oil Spill on the U.S. Gulf Coast. In each case, response efforts have been slow and difficult, and responders, already in a position of relative economic privilege, continue to profit as the community is shortchanged.

The goals are

- to explore the role of engineers in preventing and responding to disasters;
- to understand the social, political, and economic contexts that shape the occurrence of disasters as well as our response to them; and
- to analyze how power and privilege operate to compound injustice during times of crisis, and generate ways that engineers can become part of the solution rather than part of the problem

Here are links to the two readings:

<http://www.cipamericas.org/archives/4415>

<http://www.theroot.com/views/seeking-environmental-justice-gulf>

In the first article on the response to the 2010 earthquake in Haiti, the author describes a situation with an overwhelming number of NGOs operating in the country, but with little coordination, some questionable practices, and a government that lacks the infrastructure to provide any meaningful oversight of the work.

The second article describes the situation of some poor minority communities on the U.S. Gulf Coast, who were devastated by the BP oil spill, even as they had not yet recovered from the previous disaster of Hurricane Katrina in 2005. In contrast to Haiti, the U.S. government has infrastructure and resources it could bring to bear in the gulf region, but poor minority communities struggle to get noticed.

Please consider the following questions, and bring your own questions or discussion topics to class on July 7.

### Questions

1. What could engineers have done to prevent human and ecological tragedy in the Haitian earthquake, in Hurricane Katrina, and in the BP oil spill? What things were beyond engineers' control?
2. Should engineers have been able to predict these events as logical consequences of inadequate building codes, inadequate levee maintenance, or risky drilling practices? Why or why not?
3. What is the role of engineers responding to these crises? Identify places in each of the articles where engineering is likely to play a part.
4. What should be engineers' roles and responsibilities in these situations? What should be the responsibilities of NGOs? Of government? How can these be coordinated?
5. Is there a difference between offering engineering assistance as a government employee and as an NGO worker? What does an engineer need to consider when working in each of these capacities?
6. Poverty (as well as racism) is a primary factor in each of these articles/situations. How does economic privilege play out in aid work in Haiti, and in the gulf oil spill cleanup? What needs to change about these relationships, and how can they be changed?
7. Given the considerations that have been discussed today, what are the skills you would need to work on these kinds of problems? Which of these skills are you learning as part of your engineering education? How will you attain the other skills?