

**Handout 8.1: Homework Assignment 8.1:**

1. Despite better warning systems and more education about natural disasters, the United States is becoming more vulnerable to natural hazards. Explain this trend.
2. Considering the “cascading effect” of natural disasters (i.e., where one primary effect cause a secondary problem such as a gas main rupturing due to ground movement causing a fire), what special challenges are presented with regard to decision-making and prioritization for disaster mitigation and preparedness?
3. What is FEMA? What is FEMA’s primary mission(s)? What is NEMA? What is NEMA’s primary mission?
4. What is meant by the term “Sustainability” or “Sustainable Redevelopment” as it applies to FEMA’s mitigation philosophy?
5. How in your opinion does the recent formation of the Department of Homeland Security (DHS) affect response and preparation to and mitigation activities for natural disasters, such as earthquakes? Explain.

Handout 8.1: Homework Assignment 8.1 Answers:

1. Despite better warning systems and more education about natural disasters, the United States is becoming more vulnerable to natural hazards. Explain this trend.

Mostly because of changes in population and national wealth density, more people and infrastructure have become concentrated in disaster-prone areas. For most of the 20th century, the United States largely has been spared the expense of a catastrophic natural disaster. A great earthquake (magnitude 8 or larger) has not struck a major metropolitan area since the 1906 San Francisco earthquake. At the time of the 1906 event, there were only 0.5 million inhabitants in the area; now there are more than 5 million in the immediate area. An extreme or catastrophic hurricane (Class 4 or 5) has not directly struck a major urban area since the one that hit Miami, Florida, in 1926. Yet even without such disasters, which might create losses well over \$100 billion, the overall costs of natural hazards, such as extreme weather, drought, and wildfires, are estimated at \$54 billion per year for the past 5 years, or approximately \$1 billion per week.

2. Considering the cascading effect of natural disasters, what special challenges are presented with regard to decision-making and prioritization for disaster mitigation and preparedness?

We cannot prepare for every scenario, so typically we use probability and similar tools to identify most urgent needs and most optimal allocation of resources.

3. What is FEMA? What is FEMA's primary mission(s)?

Federal Emergency Management Agency. FEMA's mission is to reduce loss of life and property and protect our nation's critical infrastructure from all types of hazards through a comprehensive, risk-based, emergency management program of mitigation, preparedness, response and recovery.

NEMA is the professional association of and for state emergency management directors. NEMA's mission is to:

- Provide national leadership and expertise in comprehensive emergency management.
- Serve as a vital emergency management information and assistance resource.

- Advance continuous improvement in emergency management through strategic partnerships, innovative programs, and collaborative policy positions. See <http://www.nemaweb.org/>
4. What is meant by the term “Sustainability” or “Sustainable Redevelopment” as it applies to FEMA’s mitigation philosophy?

Sustainability is development that maintains or enhances economic opportunity and community well-being while respecting, protecting, and restoring the natural environment upon which people and economies depend. Sustainable redevelopment is simply the application of the concepts and practices of sustainable development to the disaster recovery process.

5. How, in your opinion, does the recent formation of the Department of Homeland Security (DHS) affect response and preparation to and mitigation activities for natural disasters, such as earthquakes? Explain.

The operation of DHS and its relation to many other agencies is still being refined. The impact on natural disaster issues appears to be unclear; however, there appears to be a shift in resources toward preparation for, and mitigation of, terrorist-related activities.