LUNCHEON ADDRESSES

Summary of Previous Studies/Reports Related to Risk Management of Natural Hazards and their Recommendations.

Dr. Dennis Mileti, Director of the Natural Hazard Research and Applications Information Center, University of Colorado

Remarks. In 1991, we had just started the International Decade of Natural Disaster Reduction. Beginning in 1989, our Nation had just entered a period where some of the largest catastrophes had begun to befall us. Terms like disaster resilience, local responsibility, and disaster resistance were largely unknown. There was no mitigation director at FEMA. Federal agency cooperation and coordination focused largely on the Federal Response Plan. Many of us were playing zero sum games and bickering over who got the National Earthquake Engineering Center. Wind engineers didn't have a national program. Billions were spent in preparing to respond to broken nuclear power plants, but we were ignoring and not preparing for hazards that were giving us losses annually.

Furthermore, university-based disciplines were and still are self-referential systems, interested in furthering the limited boundaries of knowledge in one discipline at a time. The problem of disasters ten years ago was getting worse and the big disasters were getting worse. The "chaos theory" was popular and supported the idea that the future was not predictable.

In 1991, a few of our Nation's intellectual elite got an idea and provided strong national leadership. Eventually, these men and women served on the SNDR and made me come up with a new theory of the structure of American government. At the top of the pyramid are a few of the political appointees who rotate in and out. At the bottom of the pyramid is everyone who goes to work in the morning with the goal of not being noticed. In a thin layer of the pyramid are the men and women who have the owner's manual of how our government works. They ended up serving on the SNDR. One of their delegates asked me to conduct a second national assessment on natural hazards. She cited the need to link hazards mitigation, preparedness, and response to sustainable development.

Recently, three major works were completed. One is the Assessment of Natural Hazards and Disasters, another is the National Research Council's 1999 book titled, "Impacts of Natural Disasters; a Framework for Loss Estimation," and a third is the Heinz Center's book, "The Hidden Costs of Natural Hazards; Implications for Risk Assessment." These three very different documents vary greatly in detail but carry the same message.

Regarding loss data, they say that we as a nation don't know what hazards cost us. We don't count everything that should be counted nor do we count consistently. In addition, data are not available to those who should have access to it. There is no arrangement in place for the centralization and standardization of data. Regarding risk information, we don't know what risks we face. We don't know how global processes impact risks to local communities. When future losses happen, we won't know the relationship of factors that made them happen. We don't know the shape of the dependent and independent variables or the relationships between them. We view all mitigation programs as good but we don't evaluate them or know if they work.

It is time for this Nation to conduct a national risk assessment, but only if we do it in a way that is useful for local decision makers. It should be customer-oriented, understandable, interdisciplinary, and multi-planed. It should merge the natural and physical sciences, the constructed environment and engineering, and the social and economic sciences, for it is those

three systems that determine risk. We are becoming more vulnerable because of changes in who we are. An assessment should be forward looking. It should draw in resources from places and agencies that already exist, such as from NASA (National Aeronautics and Space Administration) and USGS. It should not be disciplinary or agency specific. For if it were, it would become a self-referential system. The product should be marketable and useful.

As a next step, we need, as a nation, to start counting losses appropriately. We need to begin the ongoing, never-ending process of national risk assessment that informs decision-making at the local level.

Ten years later I am happy to say that the assessment of research on natural hazards is complete; the ball is back in your court!

Media and Disasters: Why we are not the enemy.

Mr. Daniel Dubno, Producer and Technologist, CBS News Special Events

Introduction. Showing a 1 meter satellite picture of Washington, D.C. and then zooming to the White House and the meeting hotel, Mr. Dubno described the 1 meter imagery with 4 meter color overlaid on it. He also showed the India earthquake site, indicating that the image was requested on Friday and received the same day. The image showed a mostly flattened city. He said this technology was unthinkable three or four years ago, and where we are headed is quite extraordinary. Then he showed a Russian spy satellite image of Washington D.C. Earlier in the day, he took a picture of the White House. On this camera, he had a GPS device that imbedded the coordinates on the image and creates a web site which goes out and fetches maps to go with the photograph. He said that geo-referenced data has easy consumer applications and especially for disaster related work.

Remarks. At CBS News, I spend a lot of time thinking about how to cover disasters more effectively. That is because new powerful technologies allow us do this. The media's relationship with disaster managers requires some new thinking, as new technologies change our relationship. Our relationship must improve as technology does. Managers and the media have similar responses. They have to understand the crisis, they have to manage the response, they have to dedicate resources, they have to inform the public responsibly, and they have to illustrate the event and response. Even the responders hear about the disaster first from press reports. We convey your message, we help you save lives, that is not meant to be arrogant.

There have been times that managers have been at odds with the press because you need to control the situation and we need to question the situation. However, it is your job to direct the public out of danger and our job to follow your lead. It is very important for you to feel very confident about this. Liability dictates that we not misinform the public. If you manage an incident well but are arrogant and keep people in the dark, you will have a failure. If you manage an incident less well but work closely with us, you will be considered a success.

Disaster managers are getting wiser, it is clear that people are providing more data, imagery and graphics, all things that are critical to help us help you. What does the media need? Raw imagery and data are increasingly important for the media to tell the story. Data should be relevant, accurate, useful, timely, free, unfettered, and interoperable. We are not interested in getting processed stuff from you as much as editorial input on how we can tell your story better. Even with your great web site, you still need the press to help tell your story better and put your info into context, which is the way the public expects to receive its information.

Powerful graphics technology is letting us explain your story more clearly to the viewers and show how an event may affect them. We need to get GOES (Geostationary Operational Environmental Satellite) and POES (Polar-orbiting Operational Environmental Satellite) data integrated with other data so we can tell your story more effectively. I want to show you a tape now showing new ways we are using technology. Examples include: India testing bombs; Iraqi conflict; and environment disasters associated with El Nino. With the successful launch of the space imagery satellite, we have 1 meter images to use with news stories (shows images of Pakistani nuclear reactor; Mt. Washington; Space Shuttle Endeavor data set, and radar topography data with 30 meter resolution, showing elevation of the earth for flood mapping). NASA and NIMA (National Imagery and Mapping Agency) are not in agreement, yet imagery will be released (shows images of Mt. Everest, Camp 4 plus animation, fictional Mt. Everest 2,

3-dimensional image of Washington D.C., and NOAA light data showing electric power outages and recovery times). Media is becoming more sophisticated in using imagery in telling your story better.

What does all this mean for news? This kind of imagery opens up denied areas when nature and governments say no. It allows before and after comparisons to inform the public. This imagery is obtained of the India earthquake and Oklahoma tornadoes, and the series of fires in Colorado. The imagery is NOAA GOES 1 minute imagery, as depicted by NASA software, of a hurricane as it moves. The government is committed to enhancing 1 meter commercial remote sensing but has also signed agreements with two companies to provide ½ meter satellites (images) in about 4 years. Many countries have said they will provide competitive commercial remote sensing. So either we do it or they will do it.

To conclude, data liberation and integration is going to happen. Only the acronyms will change. We have been introduced to HAZUS and we would like the ability to get useful SLOSH (storm surge model) models. Together, we need disaster managers to integrate the press in their planning and response. Direct data conduits to the press need to be established. Web applications to provide customized warnings to the public are inevitable, such as web-based NOAA weather radio. We need to work better to integrate imagery and GIS, and develop a wonderful global base map that can be shared with the disaster mangers and the media to tell your stories in powerful graphic ways. You have to get your data sets out to us (media).

Please visit my website for more information, and hopefully, someone will improve on it and make it obsolete. The press serves an integral role in performing our core mission of informing the public on life threatening events.

Websites: www.disasterlinks.net and www.gizmorama.com