WHY SOCIAL SCIENCE?

Because We Need to Understand What Will Motivate People to Take Action

By Marcia McNutt, Ph.D., President, National Academy of Sciences
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I am not a social scientist, and must confess to having little formal classroom training in the disciplines. However, over the course of my career as a geoscientist, I have acquired a profound respect for the value of the social sciences to the Earth sciences. Social science research helps answer questions such as why are some people open to considering scientific evidence that challenges their own deeply-held biases (e.g., about climate change) while others have closed minds. Is it a function of the message? The messenger? Or the recipient? While all of these factors can be important, new social science research has revealed that having a curious and inquiring nature can promote accepting scientific evidence that is at odds with an individual's opinions—a characteristic that can open a person's mind to considering new ideas and viewpoints. This research finding along with the scholarship in science communication synthesized in a new report by the National Academies of Sciences, Engineering, and Medicine provides us with the knowledge necessary to dramatically improve how we communicate and offers a roadmap for the kinds of future research we need as online information environments and new fields of science with regulatory, moral, or political implications continue to emerge.

My own work has been in disaster science: how to reduce the impact on humans and their critical infrastructure from man-made and natural hazards. Disaster science involves taking appropriate actions to reduce risks at three critical stages: before a disaster strikes, during the disaster, and afterwards. Geoscientists can formulate and disseminate excellent plans for how people can prepare in advance for a disaster, such as a hurricane, tornado, or earthquake, and provide maps of who is at risk. Some events even occur with advance warnings (hurricanes, tornadoes, floods) allowing citizens to take protective actions. And finally, geoscientists intervene in the aftermath so as to prevent the cascade of negative consequences to people and the environment from the breakdown of systems caused by the disaster.

But what happens when people at risk do not act in their own self interests? This is a situation that I can understand anecdotally. My family and I were in Cape Cod in 1991 when Hurricane Bob bore down. The police came door to door to urge all residents on Vineyard Sound to evacuate immediately to a shelter away from the coast. I asked if we could bring our dogs. They said no. We made the decision to stay in our house to ride out the storm with the pets rather than abandon them to fend for themselves. We spent the storm boarding windows and bailing water while the homes on either side had their windows blown out and roofs torn off.

In 1991, those in charge of disaster response were not considering human factors. So, once again, during the 2005 Hurricane Katrina, one of the costliest disasters to ever strike the U.S., fully half of the New Orleans citizens who had stayed behind rather than evacuate to shelters had done so because the storm shelters at that time would not accept pets. At long last, social science revealed that people would rather risk death than leave their pets behind, and that knowledge led Congress to pass nearly unanimously the Pets Evacuation and Transportation Standards Act (PETS Act) in 2006. The important understanding, that had cost many pet owners their lives, was that pets are family members. And now it is recognized in law.

The lesson here is simple: social science saves lives.

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