

Natural Disaster or Space of Vulnerability?

All too frequently, the tsunami disaster is discussed as an example of the tremendous force of nature, when in fact the enormity of this disaster is deeply rooted in vulnerability and poverty. Our disciplinary breadth as geographers positions us to combine analyses of the physical dimensions of this event with analyses of the social and political forces that profoundly shaped the resultant human suffering. As we all know, the dimensions of this disaster include over 160,000 dead, millions displaced from their homes, and millions now facing the threat of disease and loss of their livelihoods. Inspired by Michael Watts and Hans Bohle's discussion of what produces spaces of vulnerability (*Progress in Human Geography* 17(1), 1993) I talk in this column about the potential for geographical analysis and teaching to contribute to richer and more critical public understandings of this and other disasters. I also think through how we, the collective members of the AAG, can make our work on this event of service to those in need.

We immediately think of our strength in physical and hazards research in geography as we struggle to make sense of disasters such as this tsunami. Dick Marston's piece (February 2005 AAG Newsletter) nicely highlights some of the ongoing work that is making a comprehensive GIS of the area available to aid workers, that is working on an earthquake/tsunami warning system for the region, and focusing on disaster preparedness. However, human geographers in political-ecology and critical development studies also have a great deal to contribute. We know where vulnerable populations are, and we need to train more of our resources on understanding and then transforming the root causes of vulnerability. Geographers like Piers Blaikie, Ben Wisner, Bob Chen, Michael Watts, Hans Bohle, and Diana Liverman (to name but a few) have begun developing a store of knowledge about the dialectical relations between poverty and

political/ecological vulnerability. Their collective work identifies "spaces of vulnerability" through analyses of particular geo-historical settings taking account of ecological attributes, legal property rights and protections, political (dis)empowerment of local populations, the workings of gender and race, histories of displacement and entitlement (to productive resources, land, access to the state, to aid), and failed development projects.

Our integrated spatial approach raises crucial questions that have been relatively neglected in popular media coverage about the implications of histories of conflict and state military repression for shaping long-term vulnerability as well as the effectiveness of aid distribution and rebuilding efforts. In both Sri Lanka and Indonesia the governments have been restricting access of international aid workers to certain regions of their countries (Aceh in Indonesia and the Northeastern region of Sri Lanka). For example, the Aceh independence movement of Hasan di Tiro known as GAM has been repressed by the Indonesian military from 1953 to 1962, again from 1989 to 1998 and now again from 2003 until the present. These periods of military rule, and the abrogation of reform legislation which had briefly given more autonomy to Aceh in 2001, have deepened the vulnerability of many in the region, while militarizing local institutions and widening the chasm between the people and the state. And then disaster hits, devastating the region.

The multifaceted aspects of vulnerability in Western Sumatra demand geographical analyses that bring together our best analyses of physical process and technical responses together with a deep understanding of the political, social, and geo-historical dimensions of disaster. We

need collaborations between areas of our discipline that have too often remained separate. This will allow us to call public attention to the intersections between vulnerability, failed development projects, political disenfranchisement, and poverty. I can envision the building of hopeful geographies as teams of geographers engage in detailed work on how physical



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processes, technical systems, and social-political realities combine to inform viable recommendations for recovery and rebuilding. A disaster of this enormity ought to galvanize us to work across disciplinary differences so that scholars of critical development studies seriously engage with those

working on physical and technical processes to better understand the full dimensions of this crisis.

Our teaching can take advantage of ongoing work that is thinking through this disaster. Again, Dick Marston mentioned outreach to K-12 teachers, including responses to teacher questions on the NGS EdNet site as well as work by Mike Barron. Some other websites contribute to teaching at all educational levels. These include the RADIX site, moderated by Ben Wisner and specifically the page on the Indian Ocean earthquake and tsunami at http://online.northumbria.ac.uk/geography_research/radix/indianocean-tsunami-eq.htm; the International Student Forum at the Kobe World Conference on Disaster Reduction that took place in January, 2005 (www.unisdr.org/wcdr/); also see the site for International Strategy for Disaster Reduction (www.unisdr.org/); and the tsunami resources page of the Center for International Earth Science Information at (www.ciesin.org/tsunami2004.html). Each of these sites provides resources for

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geography research capability would be the USGS. Though a relatively small agency, geography has been assuming a more central role in the USGS, and the prospects for its expansion are excellent if this were to become a management priority, given geography's strong growth trajectory in society, government, and the university.

Supporting Geographic Research at the USGS

With this potential in mind, the AAG has been working closely with the USGS to help strengthen geography and geographic research within the agency.

The AAG has recently sponsored several special high-level meetings together with the USGS, including the "USGS Geography Summit" last month at the Cosmos Club here in Washington, DC. USGS Director Chip Groat and I opened the three day meeting of fifty USGS geography division senior staff from across the country, during which we addressed the adoption and implementation of the new USGS ten-year science strategy for geographic research. It was a very productive meeting, with good progress made toward the realignment of geography at the USGS around a research focus and adoption of the

proposed new geography science plan by those who will ultimately have to implement this vision. We have also participated in helping to shape and revise the USGS ten-year science plan in several other venues, including recent NRC panel reviews of the science plan.

This past September the AAG also hosted jointly with USGS the "AAG/USGS Geography Land Remote Sensing Workshop," a gathering of thirty-five leading geography-remote sensing experts from the university (e.g., David Skole, Nina Lam, Sam Goward, John Townsend, Carolyn Merry, Joel Morrison, etc.), government (Chip Groat, Barb Ryan, Jay Feuquay, John Kelmelis, Leslie Armstrong, Brad Doorn, Greg Smith, etc.), and the private sector. This two day meeting addressed the needs for continuity and advancement of Landsat and related geography/ecosystem monitoring remote sensing programs within the USGS and the government at large. An AAG publication is forthcoming on the recommendations of that meeting.

AAG staff have also been active members of the USGS's GAM (Geography Analysis and Monitoring) Program steering committee, and we are key participants

in the USGS Coalition here in DC, which supports funding for the agency. The AAG also interacts regularly with USGS regional staff at meetings here in our office or in Reston, in Menlo Park, in Denver, and in Sioux Falls at the Eros Data Center.

Chip Groat will be spending two or three days at our Denver meeting, and he and Barb Ryan will meet with the AAG Council and lead three sessions on the future of geographic research and science in the USGS. I urge you to participate in this important evolving process by attending these sessions.

Although the vision of an "NIH of geographical research" is certainly far from a reality today, and it is not clear exactly where within the federal government a strong geographic research capability might ultimately develop, I am convinced that the need is sufficiently compelling that it will occur somewhere. With prescient leadership at the USGS, and support from the AAG, might we look forward to a greatly expanded basic research program in the future at the "U.S. Geographical Survey"?

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teaching that connects physical, technical, and also critical development perspectives to provide a long-term view of the processes contributing to crisis and vulnerability.

As geographers Bob Chen and Ben Wisner have pointed out, it is not a lack of scientific knowledge that caused a disaster of these proportions, but rather underinvestment in scientific and technical infrastructure and a lack of political will to protect vulnerable peoples, from the region to the globe. Geographers can be of service by engaging in research and teaching that raises awareness of the root causes of vulnerability and the intimate connections between politics, poverty, and the implementation of needed reforms and warning systems. We can engage in

research that supports Bob Chen's call for "risk-conscious, sustainable development" and then communicate our results to foreign aid donors (whether the state or NGOs), international development projects, and to international gatherings of scientists and policy-makers. We can continue these cross-disciplinary conversations at our Denver meetings where Dick Marston is organizing a special session on the tsunami. In addition, my Presidential Plenary sessions on "Geographies of Fear and Hope" will provoke similar discussions about the ways in which geographers contribute to understanding events of great magnitude. Our plenary speakers will address global climate change, the "atomic West", geopolitics and terror, the

possibilities of urban sustainability, the role of geo-spatial technologies in producing fear and hope, sacred landscapes, state responses to asylum and refugees, and hopeful alternatives to neo-liberalism and poverty in Latin America. I look forward to seeing you there.

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See the AAG's new Tsunami Resource Center for Geographers, assembled by AAG Senior Associate Tim Smith, at www.aag.org/tsunamiresources.