

Proposal: Small Grant for Workshop on Resilience to Extreme Weather Events

Abstract A group of researchers will be convened in January, 2008 in order to discuss research directions on the theme of how communities become more resilient (or vulnerable) to adverse effects of extreme weather (i.e., droughts and floods). The workshop will bring together an interdisciplinary group of researchers from the social, engineering, and earth sciences. Part of the \$10,800 budget will be used to bring several distinguished scholars to UCI. Air fare and lodging for one of the participants will be cost-shared by the Department of Planning, Policy, and Design. The budget will also allow Prof. Lejano's to present a paper on near-term climate forecasting and water utility practice at the UNESCO IHP conference in Paris and Prof. Ingram to present a paper on new water institutions at the CAIWA NeWater conference in Basel. Professors Lejano and Ingram would be representing both UWRC and the School of Social Ecology at these conferences. Another output of the workshop will be an NSF proposal (Human and Social Dynamics) to study community resilience.

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Project Description

We focus on institutional characteristics that allow a community or region some measure of resilience to extreme weather events. Behind this interest is, first, patterns of urbanization (e.g., congestion, dependence on extra-regional resources and services) are creating new vulnerabilities. Second is a growing interest in, and importantly statewide grant support for, adaptation to climate change. Third is the capacity of communities to respond to extreme water related events in the short and long term. In the field of water resources, the two main concerns are resilience of water systems to more severe droughts and the capacity of drainage systems to handle more severe storms or tidal encroachment.

The intent of this workshop is not to present previous research but to collectively deliberate on new research directions and possible intersections in our research interests. It will be a chance for a multi-disciplinary group of researchers to compare notes regarding research questions and methods. As an example, a strong interest of different groups of faculty at UCI is the resilience of poor communities against droughts and floods. A group of social ecologists (Lejano, Ingram, and Dr. Ruth Meinzen-Dick of the IFPRI, who will be attending the workshop) want to study mechanisms that lead to more reliable water supply systems in communities in India with stronger social networks (e.g., places where the temple is dominant). Sociologists at UCI, on the other hand, seek measurements of structural patterns of these social networks and correlate these with outcomes. Some from civil engineering, furthermore, may have ideas about rigorously measuring how reliable the infrastructure is --e.g., by using a failure analysis. By conducting an extended discussion around how we can frame our research, we may be able to build coherent research agendas. Aside from these groups, we would invite one or two leading authorities on environmental vulnerability and resilience (e.g., Prof. Roger Pielke).

The workshop might structure the conversation around two focus areas: water systems in California and flood prevention in East Asia, the reason being that these are two very likely focus areas for grant proposals in the immediate horizon. The project team will design the workshop in more detail, but one possible configuration might be short 20 minute presentations from different groups on their research questions and methodologies. The group might then spend an hour or so talking about how an inter-disciplinary approach to studying these two thematic areas might be constructed. The structure of the full-day workshop might be something like:

I. Research Workshops

Presentations by different research groups on research directions, concepts, and methodologies.

II. Drought Resilience in California

Roundtable discussion on ways to study impacts on water supply reliability of climate change forecasts for California.

III. Hazard Planning in East Asia

Roundtable discussion on research agendas around vulnerability to extreme weather events in developing East Asian regions.

The intention is to use the workshop to plan several grant proposals. One will be packaged for the NSF Human Social Dynamics program. Another might focus on the anticipated statewide initiative on Climate Change. A tentative date for the one-day workshop would be during the week of January 17, 2008.