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Preparing for the Big One

Vulnerable Populations as Key Indicators of Community Resilience

By Lori A. Cramer

INTRODUCTION

Experts are predicting a major rupture of the Cascadia Subduction Zone — a principle geological fault off the West Coast — sometime within the next 50 years. When that happens, it will cause an offshore earthquake at a magnitude of up to 9.0. After the ground shakes for about five minutes, a powerful tsunami will strike land.

The New Yorker recently quoted a Federal Emergency Management Agency official stating that after such a tremendous geological event, everything in Oregon west of Interstate 5 “would be toast” (Shultz, 2015). The event is expected to be similar to the 2011 Tohoku earthquake in Japan, which generated tsunami surges of 128 feet, killed more than 15,000 people, and displaced a quarter of a million others (<http://www.livescience.com/39110-japan-2011-earthquake-tsunami-facts.html>). Although Oregon’s population is smaller, the impact will be no less significant.

Natural disasters often catch local governments, rich and poor alike, unprepared to deal with the massive demands of emergency relief. Oregon has learned a lot from Japan’s experience. In 2013, it released the Oregon Resilience Plan, which documents how the state is expected to recover from the predicted high-magnitude earthquake and tsunami. The plan concludes that it will take weeks to months to restore essential services — longer for remote rural areas. Coastal areas may see electricity services in three to six months; water and wastewater services,

health care, and partial restoration of highways in one to three years. Landslides, mudslides, and bluff erosion will undoubtedly complicate recovery efforts. Communities are advised to develop customized resilience strategies that will enable them to rely on their own resources for days, weeks, months, and even years.

Although we like to believe that natural disasters are equal opportunity destroyers, some populations are inherently more vulnerable than others. Natural disasters exacerbate pre-existing vulnerabilities, which vary according to the unique conditions, needs, and constraints of these subcultures. Poverty-stricken groups living in substandard housing, on unstable ground, or in flood plains are usually the major victims. Safety and recovery issues are more complex for socially vulnerable populations such as disabled and elderly persons, children, residents of foster care and group homes, and families living in shelters.

ASSESSING DISASTER PREPAREDNESS

On March 11, 2011, Oregon coastal communities were warned that a “distant” tsunami had been generated by the earthquake off the coast of Japan. Although distant tsunamis will have less impact, they can affect coastal inundation zones (see Oregon Distant Tsunami Working Group, 2012). Immediately following the event, I put together a research group with the goal of learning how organizations who work with socially vulnerable groups responded

that morning. In collaboration with Oregon Sea Grant Extension (Cramer, 2011) we interviewed key informants in three coastal communities. Interviewers talked to 24 people who work with vulnerable populations, including food bank coordinators, directors of homeless shelters, low income housing managers, assisted living coordinators, hospital administrators, preschool teachers, directors of domestic violence shelters and foster homes, and disability service coordinators.

Our findings do not paint a comforting picture of existing preparedness efforts for Oregon's most vulnerable populations.

We asked interviewees to describe their organization's level of preparedness for the distant tsunami. Some organizations had disaster preparedness plans in place and believed that they were moderately successful, but because it was a distant earthquake, they did not put the plan into full effect. Other interviewees believed that their existing plan was inadequate. Still others did not have a plan or did not know whether they had a plan. Most interviewees knew that residents should "go uphill" in a near-shore event, but there was general concern about how to get people there.

Interestingly, the issues that emerged among interviewees varied depending upon the groups with which they work.

We learned from those who work in institutions serving elderly, disabled, and hospitalized individuals that some facilities perform regular emergency drills (usually fire drills), but others have not had a drill for more than two years or have only talked through the process with their residents or patients. Few have run the drill during evening or early morning hours. Most employees and volunteers were not trained in triage.

Most group homes and facilities that serve homeless individuals and low-income families are nonprofit and lack federal funding that would require them to implement official disaster preparedness measures. Many interviewees believed that the preparedness plans recommended by most emergency

management experts did not meet the needs of their clients anyway.

Interviewees consistently commented that people who cannot meet their daily needs for shelter or food do not have the ability to put aside resources for emergencies, because "every day is an emergency and a struggle to survive." The individuals they serve have low income and literacy levels, which is an obstacle to emergency education and planning. These individuals tend to rely on limited public transportation, and probably would not have access to such transportation if an evacuation were ordered.

Clientele for many of these organizations changes frequently and most organizations rely on volunteers who come and go and may not be on board in the rare event that training sessions or emergency drills are conducted. Many shelters and similar facilities are underfunded and did not stock emergency basics such as food, water, flashlights, radios, or batteries.

Assisting Communities with Tsunami Planning
Our study, based on responses to a distant tsunami event, suggests that a one-size-fits-all approach to disaster preparedness will not work. Contingency plans must be developed to clearly link community outreach approaches to the specific needs, vulnerabilities, strengths, and characteristics of each vulnerable group. A wide range and scale of preparedness opportunities should be made available. Community leaders should continuously seek to create services and accessible training sessions that do not require monetary investment.

Trained, committed, and united, local agencies can provide the best possible support for people with special needs in times of disaster. To help organizations build resilience capacity, local communities and emergency preparedness organizations can help develop culturally appropriate programs for nonprofits, faith agencies, service providers, and the low-income and special needs communities they serve. Outreach efforts can bring diverse leaders together to pool resources and develop collective strategies.

Building organizational resilience capacity will entail educating staff, including volunteers. All staff and key volunteers need to be trained in basic emergency preparedness on a regular basis.

But here's the rub: building and maintaining organizational capacity is essential, but it is insufficient for creating true community resilience.

LEVERAGING SOCIAL CAPITAL IS KEY

Our study assessed the perspective of those who work with socially vulnerable groups. What is lacking is a perspective from vulnerable individuals themselves. Understanding the full spectrum of social vulnerability and resilience within a community is critical if public officials are to develop effective adaptation, mitigation, response, and recovery plans, and mobilize people and assets when needed.

Oregon has created Coastal Community Resilience Guides, which examine critical infrastructure and facilities, transportation and community plans, mitigation measures, business plans, and social systems — easily quantifiable dimensions of disaster recovery. Yet measuring how prepared communities are will require examining the less quantifiable community resources: face-to-face networks, cultural identities, working relationships, civic engagement. These elements of social networks and social capital are hallmarks of rural community research, and they emphasize interpersonal trust and reciprocity as vital components to resiliency and adaptability (Agnitsch et. al., 2006; Bridger and Alter, 2006; Bridger and Luloff, 2001; Emery and Flora, 2006).

In our study, interviewees who work with homeless and low-income residents indicated that their clients might be aware of social networks and

survival techniques that could be helpful to others. For example, community members may have useful knowledge about alternative routes, forms of transportation, creative uses of everyday technologies, and communication options. Unfortunately, few opportunities exist for members of vulnerable groups to share such lessons, concerns, and strategies. By building trust and gleaning from their specialized knowledge, indigenous wisdom, day-to-day survival techniques, and cultural competence, these community members could become critical partners in building economic and social resilience.

CONCLUSION

Federal and state agencies (e.g., Department of Land Conservation and Development, 2015) are continuing to push for infrastructure improvement in preparation for the Big One. Yet there will be no promise of earthquake and tsunami safety for all members of the community without inclusive preparation. Although Oregon is known for its strong sense of community and grassroots-style initiatives, these characteristics have only just begun to appear in communities around the state with regard to disaster preparedness.

If Oregon's coastal communities are to plan and act in a coordinated and seamless fashion in the wake of a devastating geological event, it is critical that we understand the issues from multiple perspectives. This preparation means the inclusion of all vulnerable populations in the process. Preparing for the Big One will also help rural coastal communities become resilient to a multitude of other events, ranging from the impacts of climate change to economic shifts. ●



PICTURED: Coastal community of Yachats, Lincoln County, Oregon/istockphoto