

BUILDING LOCAL CAPACITY FOR DISASTER RESPONSE:  
AN ASSESSMENT OF COMMUNITY EMERGENCY RESPONSE MODELS  
IN RURAL AREAS

By

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A Thesis Presented to

The Faculty of Humboldt State University

In Partial Fulfillment of the Requirements for the Degree

Master of Arts in Social Science:

Environment and Community

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December 2012

## **ABSTRACT**

### **BUILDING LOCAL CAPACITY FOR DISASTER RESPONSE: AN ASSESSMENT OF COMMUNITY EMERGENCY RESPONSE MODELS IN RURAL AREAS**

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The northwest coast of the United States is dominated by a sparsely populated landscape of steep, faulted and forested terrain. Naturally prone to earthquakes, tsunamis, mudslides, fires, torrential storms and floods, this vast landscape poses significant challenges to professional responders' ability to reach victims during a disaster, making local capacity to respond effectively to natural hazards crucial to saving lives and reducing damage. This research explores strategies employed in small cities and rural areas of Western California and Oregon to prepare for and respond when natural hazards turn into disasters, with a focus on the Community Emergency Response Team (CERT) training model. Using an on-line survey followed by face-to-face interviews, CERT leaders and hazard-planning professionals were asked about the adequacy of the basic CERT training model when adapted from its urban origins to small cities and rural settings. Questions also explored if the process of the basic 20-hour CERT training contributed to the development of social capital between the citizen volunteers, trainers and professional responders, and was social capital strengthened if these participants continue to meet as a response team? Results illuminate deficits in the basic CERT training model when employed as a one-time stand-alone preparedness training for rural

or isolated areas where professional responders may be hampered from reaching victims for hours, or even days. The CERT framework can be an effective strategy when 1) teams are developed, 2) mitigation activities tailored to an area's specific risks are added, and 3) affiliations with professional planners and first responders are robust and mutually maintained. Joining efforts between all segments of the rural population in on-going mitigation activities before hazards occur will contribute to the development of social capital, to reducing potential injury and property damage during and following disasters, and will facilitate localized recovery.

## ACKNOWLEDGEMENTS

I sincerely want to thank all of the professors who are a part of the Environment and Community Master's Program at Humboldt State University. The fact that you are sharing subjects that you are passionate about comes through your lectures, your continued commitment to your research, and in interactions with students. I particularly want to thank my thesis committee: Dr. Mark Baker who has taught me so much about critical analysis and social justice, and has given me the honor to spend time with his mother Carroll, a brilliant and elegant woman; Dr. Elizabeth Watson who has opened my eyes to matters of conflict resolution, community organizing and sharing disaster preparedness with kids; and Dr. Yvonne Everett, my thesis chair with whom I share a passion for community involvement in disaster preparedness, and who has guided me through my own personal landmines with her extraordinary patience and personal strength. A special thanks to Donna Clark in the Learning Center who played a significant roll in getting me through my first semester as a graduate student. Thank you to my dear friend Phil Zastrow who has done what he does the best, supporting students when we need it the most. And my deepest appreciation goes to my family, particularly my 97-year old Mom who is thrilled for me to finish, and says now I need to get a job. Special thanks to my brother John for his lessons in pragmatism, and to two adults who I have been honored to know all of their lives, Halley and Rob, who have kept in touch and supported me through all of this. Thank you all!

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## INTRODUCTION

In the first years of the 21<sup>st</sup> Century catastrophic disasters have occurred around the world challenging response capacity at every level. Disasters such as the destruction of the World Trade Towers (2001), the Indian Ocean earthquake and tsunami (2004), Hurricanes Katrina and Rita (2005), earthquakes in Sichuan, China (2008), Haiti (2010), Chile (2010), Pakistan (2011) and Christchurch, New Zealand (2011), the 2010 Deepwater Horizon Oil Spill, the devastating March 10, 2011 earthquake, tsunami and nuclear disasters in Japan, the 2011-2012 floods, tornados, droughts, fires and heat waves in the interior of the United States and across Africa, the October 2012 Hurricane Sandy in the Caribbean and Atlantic and on-going wars around the globe all make it dramatically clear that overwhelming man-made and natural hazard events are occurring that we are not accustomed to planning for in the course of our everyday lives. Debates rage over whether the numbers of earthquakes around the globe are increasing, whether or not humans are causing global warming which in turn is contributing to catastrophic storms, and the part that capitalism and global corporations play in putting people in harm's way. Despite the conflicting answers to these questions the facts remain; humans and our environment are now being affected by increasing numbers of hazardous events that become disasters, accentuating the need for preparedness strategies for everyone.

Not until Hurricane Katrina churned onto the Gulf coasts of Mississippi, Louisiana and Texas in August of 2005 did preparedness become so public and significantly social in the United States. For many Americans, the widely televised

inhumanity, devastation and death that occurred in the days and weeks following Hurricane Katrina's landfall was a revelation. It came to the collective attention of American citizens that they themselves may be seriously vulnerable in their own communities, falling outside of the safety nets believed to be in place at all levels of government. This vulnerability, compounded by the increasing number and frequency of hazardous events that are occurring, accentuate the critical need to develop individual and collaborative preparedness strategies for mitigation, response and recovery at the local level.

The Federal Emergency Management Agency (FEMA) defines preparedness as “a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response” (FEMA, 2010). Here the words “effective coordination” are pivotal. Defined in the context of the Federal government's matrix for organizing disaster response known as “NIMS”, the National Incident Management System (FEMA, 2008), the coordination FEMA refers to is primarily between professional responders, government entities and private infrastructure providers tasked with maintaining continuity of business and maintenance of infrastructure during a disaster and in the following recovery. Generally left out of this coordination of planning are ordinary citizens. A truly comprehensive strategy would include the public in preparedness activities coordinated with the top-down government agencies. Activities such as households preparing disaster evacuation plans using local evacuation route maps and participating in local tsunami drills are examples of this interface. This agency-public coordination would increase the whole

community's resilience, its potential to be able to experience a disturbance and then recover while maintaining the relationships, structure and environmental integrity that existed before the event (Berkes, 2007). If ordinary people knew the appropriate preparations to make that reflected risks in their area and complemented preparations being made by agencies, they could contribute to the systemic resilience of their whole community (Berkes, 2007).

Shifting to an inclusive and collaborative model of disaster management is messy. An unorganized "public" is difficult to work with (Everett & Fuller, 2010) but, as Captain Stacey Gurlich of the Los Angeles Fire Department (LAFD) reasoned, having a trained public is better than an untrained public. Capt. Gurlich believes her city's efforts to train community members have added to Los Angeles' comprehensive ability to respond in a disaster, making their efforts worthwhile (personal communication, October 19, 2011). In the process, government efforts to train and educate the public in preparedness can also build social capital by developing relationships of trust and reciprocity through the interface between government entities and the people in their communities. This development of social capital could prove beneficial regardless of whether the preparations are ever put to use in an emergency event (Flora, Flora & Fey, 2003).

One formalized strategy for organizing citizens to respond when hazard events occur, proffered by FEMA, is the Community Emergency Response Team (CERT) training model. Developed in 1985 in urban Los Angeles by city officials and the Los Angeles Fire Department, CERT is designed to train non-professional citizens in basic disaster response. The premise is that if a hazard event occurs near a CERT trained

individual or team, they will have an understanding of the community wide response process and the knowledge and ability to immediately begin performing basic life saving measures wherever they are.

This thesis explores the disaster preparedness strategies of individuals and their communities along the lightly populated coasts of Northern California, Oregon and Washington State. Due to their geologic and topographic characteristics these areas are commonly isolated from outside assistance when severe weather, floods, fires or earthquakes occur. First responders in these areas have identified “isolated islands of humanity” as places where communities are located in relatively remote rural landscapes that are likely to be isolated by infrastructure damage following a disaster. Residents in these areas may be in need of emergency assistance, yet be beyond the reach of the equipment and limited staff of rural small town professional responders, requiring them to take care of themselves in the initial hours, and potentially days, following an event.

This study focused on CERT training, surveying CERT leaders to assess how effective the CERT training is as a preparedness-training tool for community members when taken out of its urban origins and taught in small cities and rural areas. The leaders were asked if they had made changes to the CERT training in order to adapt the model to their rural environments. Through questions about member affiliations and activities the study also sought to find out if CERTs helped to build social capital through affiliations with city, state and federal entities and service activities in their communities.

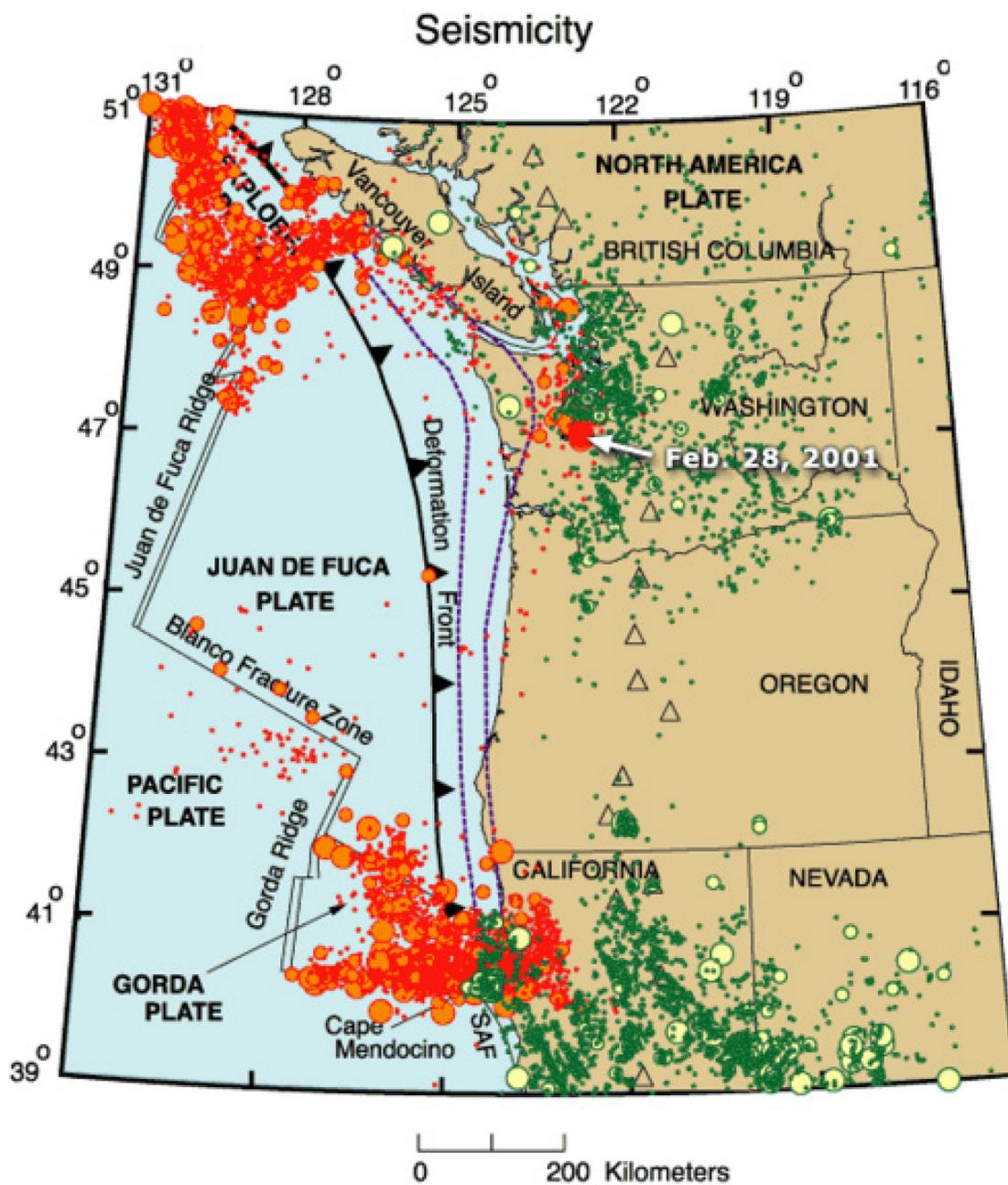


Figure 1: Seismic Map of the Pacific Northwest United States

## REVIEW OF LITERATURE

“It is generally accepted among environmental geographers that there is no such thing as a natural disaster. In every phase and aspect of a disaster – causes, vulnerability, preparedness, results and response, and reconstruction – the contours of disaster and the difference between who lives and who dies is to a greater or lesser extent a social calculus” (Smith, 2006).

“Risk defines both the limits of preparation and the character of response to disaster” (Towers, 2008).

Literature regarding natural hazards and disasters describes a hazard as an extreme event which may be localized or widespread, may happen at any time and for any duration, and can be of varying degrees of severity (Blaikie, Cannon, Davis, & Wisner, 1994). Hazards are frequently natural events and are often considered harmless unless they impact humans, their physical property or immediate environment.

FEMA defines the magnitude of hazards in relationship to their impact on human lives, and humans’ ability to respond (FEMA, 2010). An emergency is defined as a situation in which humans, domesticated animals, property and habitat may be at risk of harm or death, damage or destruction by forces larger than one person can affect. An emergency becomes a disaster when local emergency responders are overwhelmed and unable to provide adequate services, and a catastrophe is a sudden and widespread disaster (FEMA, 2010).

It is important to consider how we as a society marshal capital to respond to disasters. The concept of community capital is a theoretical framework that is useful for

this purpose. It suggests that resources, whether money, influence, skills or relationships, have value which when invested increase over time and can be drawn upon (Flora, 2003; Topel, 2010). Conceptually there are seven overlapping types of community capital: natural, cultural, human, social, political, financial and built (Flora, 2003). Natural capital includes earth's resources such as air, water and wildlife. Cultural capital is the shared values and ways of seeing the world as a community. Human capital is the skills and education of community members. Social capital refers to the networks, norms of reciprocity and mutual trust that develop among community members as a result of sharing time and activities. Political capital refers to the power of a group in society. Financial capital refers to money invested. Built capital is infrastructure (Flora, 2008:18).

Impossible for an individual to have alone, social capital develops in networks of place-based relationships. Bonding social capital is inward focused, and can grow as a group of people with shared interests and backgrounds become familiar with each other, often resulting in generosity and trust developing between the group members (Everett & Fuller, 2010; Flora, et al., 2003). Social capital also extends networking out into a community as most people belong to more than one group. Social capital can form a bridge between groups. For example a person can be a parent, an employee, an avid soccer player and a volunteer fire department (VFD) member. When the VFD has a fundraiser, the soccer team and colleagues from work and other parents from the school may attend the VFD fundraiser because they want to support the individual as well as the fire department. In this same way social capital can contribute to resources being shared

when the community needs, especially in times of disaster when people are most vulnerable.

Current disaster researchers still reference the classic study published in 1975 by geographer Gilbert White and sociologist Eugene Haas, the “Assessment of Research on Natural Hazards” on the United States’ vulnerability to hazard events, and its communities’ capacity to cope with and recover when hazards became disasters (Mileti & Peek-Gottschlich, 2001; Patterson, Weil, & Patel, 2010; White & Haas, 1975). Their assessment identified the need for hazard planning to include not only professional and government disaster planners in collaboration with physical scientists and engineers, but also community planners and social scientists for their perspectives on the social, political and economic factors that contribute to disasters (Mileti, 2003; Mileti & Peek-Gottschlich, 2001). White and Haas stimulated preparedness and mitigation planning with their assessment, stating prevention could significantly reduce the impact of hazards and costs associated with recovery, and are credited with provoking the development of the more comprehensive “hazards community” planning model (Mileti, 2003; Mileti & Peek-Gottschlich, 2001).

Ensuing vulnerability studies focused not only on natural and technological aspects of hazard mitigation planning, but also on how and why humans and their communities became unsafe, and began exploring what could be done to make them safer (Hewitt, 1997). “Vulnerable people” and “vulnerable communities” are individuals or groups who are in harm’s way. As more people moved into areas chosen for their beauty or remoteness or affordability rather than for their safety from the risk of hazards,

incidents of hazards becoming disasters increased (Everett & Fuller, 2010). Vulnerability is also due to social and economic pressures such as poverty, discrimination, isolation or war, which can impact people's resilience, their systemic ability to prepare for, live through, and then recover from a hazard event (Berkes, 2007). Comprehensive risk assessments require both the study of people's and their environment's vulnerability (Wallace & Wallace, 2008), and the potential of vulnerability and hazards coming together to create a disaster (Blaikie, et al., 1994). As more was learned through cross-disciplinary research about the links between hazards and vulnerability, disaster planners and practitioners grew to recognize the value of including individuals and autonomous communities in their mitigation planning. They realized citizens could not only help themselves and assist those around them in a disaster, they could aid practitioners and planners in identifying local vulnerabilities, potentially reducing the impact of disasters when they occurred (Patterson et al., 2009). But there was no management model in place to encourage this planner-to-practitioner-to-people interface.

In the late 1970's state governors were also considering hazard management, and how best to manage state-level disaster response. In 1977 the National Governors' Association (NGA) formed the Subcommittee on Disaster Assistance for the purpose of addressing the lack of coordination between federal and state emergency management policy, as well as in practice (Baird, 2010). One particular effort was to work towards reducing the confusion that arose because of the number of federal programs the states and local governments had to contend with around a disaster. At that time there were over 100 federal programs involved in some part of disaster planning, scattered across

multiple agencies (Baird, 2010; Perrow, 2007). Closely related to the NGA's call for simplifying the interface between state and federal hazard management, in 1979 President Jimmy Carter, a former state governor, established FEMA, an amalgam of federal disaster-related programs (Baird, 2010; Perrow, 2007). The new agency was envisioned to facilitate programs working together to identify planning elements common in most disasters, reduce redundancies, and provide comprehensive and coordinated response (Flint & Stevenson, 2010; Perrow, 2007). Although from its inception FEMA was seriously challenged to pull together the various federal programs, this basic "all-hazard" preparedness framework persisted. Community and individual response planners eventually adopted the same preparedness framework, with adaptations made for local threats (Perrow, 2007).

The NGA was also concerned with the scope of emergency management practices. Both state and federal response policy focused on "preparedness" and "response" virtually to the exclusion of "recovery" and "mitigation" (Baird, 2010). Out of their efforts the NGA produced the study "Comprehensive Emergency Management: A Governor's Guide" which suggested a model simplistically illustrated by the four-part "Disaster Cycle" which includes preparedness, response, recovery and mitigation and illustrates the overlapping and on-going nature of all of the phases of emergency management. This model was later adopted by FEMA (Baird, 2010; FEMA, 1996).

In 1981 the Los Angeles Fire Department (LAFD) along with city officials began the conversation about the need not only for their agencies to be coordinated, but also for their citizens to be disaster prepared. They recognized that the combination of their large

and growing population with a major earthquake could quickly overwhelm their response capabilities. They were also concerned that during hazard events volunteers spontaneously came forward who wanted to help, but most had little or no training to even help themselves (Simpson, 2001). Looking to Japan with its major cities and a long history of earthquakes, Los Angeles city officials and representatives of the LAFD sought out Japanese officials for hazard management approaches they might employ in Los Angeles. In 1985 Los Angeles city and LAFD officials traveled to Japan where they were introduced to a response model of rigorous training and drills of single-function neighborhood teams, trained either in fire suppression, light search and rescue operations, first aid or evacuation. In September of that year, following an 8.1 magnitude earthquake in Mexico City, another Los Angeles investigative team went to observe that city's citizen response. People in Mexico City had no training program but quickly organized themselves to perform search and rescue to find survivors amidst the mountains of rubble. These spontaneous volunteers were credited with saving 800 lives, but 100 of the volunteers lost their own lives in the effort (Port Richmond C.E.R.T. and Rescue, 2003).

From observations made in the aftermath of Mexico City's earthquake, the LAFD and city officials concluded that they needed to develop a program to train citizen volunteers to help themselves and those around them immediately following a disaster, to serve as adjuncts to the city's first responders. First, working with a group of neighborhood leaders who were already organized to help prevent crime in their neighborhoods, LAFD developed a curriculum to train volunteer teams in rudimentary skills of response, including fire suppression, light search and rescue, and first aid

(Franke & Simpson, 2004). Following the 1987 Whittier Narrows earthquake, the LAFD committed to disseminating information to more citizens, and to training and maintaining a network of Community Emergency Response Teams (CERTs).

In 1989 the Loma Prieta earthquake struck the San Francisco peninsula and the Santa Cruz coast. It was the largest earthquake experienced in California since the 1906 earthquake in San Francisco. Emergency response resources were instantly overwhelmed and residents took on rescue and immediate care of victims. It became obvious that the level of emergency response typical in non-emergency times was not available, and that too few citizens were technically prepared (Simpson, 2001). In the earthquake's aftermath citizen groups around the San Francisco Bay Area looked to LAFD's fledgling CERT as a model on which to build similar programs. In 1992 the Chevron Corporation asked the San Francisco Fire Department (SFFD) if they would train Chevron employees to be self-sufficient in their own neighborhoods. Chevron and SFFD reached an agreement that Chevron would fund SFFD to lead a series of five 15-hour trainings, teaching disaster preparedness education and hands-on skills (Simpson, 2001). In 1993 three hundred Chevron employees were trained using a curriculum modeled after the LAFD CERT. Many other communities were interested in getting the same training, and in January of 1994 a Train-the-Trainer workshop was offered by the SFFD to expand their capacity to train more individuals and teams (Simpson, 2001). Following the train-the-trainer workshop, a regional organization called the Bay Area Neighborhood Emergency Training (BayNET) was established with the mission to train as many people in disaster response as possible in the greater San Francisco Bay area.

In 1993 FEMA, in cooperation with the San Francisco and Los Angeles fire departments, adopted CERT as a national program. The Emergency Management Institute (EMI), FEMA's education and training center, developed standardized CERT training materials and broadened the curriculum to include multiple types of threats with the intention that the same curriculum could be used anywhere in the country (Simpson, 2001). This adoption and expansion helped encourage mitigation planners all over the United States to explore how they could both use and support CERTs in their own communities (Simpson, 2001; Graves, 2005; Mullins, 2005).

During the 1990's there were other efforts being made to address challenging problems of governance through collaborative community-based efforts in social capital building (Kusel, Gray & Enzer, 2001; Wondolleck & Yaffee, 2000; Putnam, Feldstein & Cohen, 2004). Expanding on the individual and team preparedness potential of the CERT model, in 1997 James Witt, director of the FEMA under President Clinton, launched the Project Impact Program: Building a Disaster Resistant Community, an initiative conceived to tie together local efforts of community mitigation planning between governments, businesses and private citizens (FEMA, 1999; Simpson, 2001). As one FEMA document noted:

The Project Impact initiative involves an unprecedented mix of groups – elected officials, federal and state disaster personnel, representatives of the local business, labor and environmental communities and citizens coming together to take steps that will help their community and the nation design and implement a common-sense plan for their community (FEMA, 1997)

Project Impact built on the “hazard community” concept that diverse perspectives contribute to improvements in mitigation and response planning, and ultimately to community resilience. It provided a ground for the development of community capital. In the communities where Project Impact was adopted, participating individuals had many group affiliations and when they come together in Project Impact, they brought with them their bridging relationships from the other groups they belonged to, thus extending, and even multiplying the group’s capacity (Putnam R. , 2000; Lin, 2001). In Project Impact community members collaborated with local government agencies, businesses, neighborhood groups and with their own neighbors, enhancing the entire community’s ability to plan, respond and recover from hazard events. At the close of 1999 nearly 200 communities and over a 1000 businesses had partnered under Project Impact (FEMA, 1997).

Through the implementation of Project Impact in the Pacific Northwest, communities were catalyzed to take steps to develop dynamic partnerships for mitigation planning and response in creative ways that had not been seen before. However, even with notable successes, when President George W. Bush took office in January of 2001, the new administration showed little interest in supporting FEMA’s efforts to improve national disaster mitigation and preparedness at the community level, and on Feb. 28, 2001 Project Impact was discontinued (Holderman, 2005).

Following the September 11, 2001 attack on the World Trade Towers in New York City, hazard planning shifted again, turning the federal government’s primary focus further away from natural hazard mitigation to planning for unnatural hazards, nuclear

incidents and potential terrorist attacks. Under the Bush administration, FEMA's director no longer held a cabinet level position, as had been the practice under President Clinton. FEMA was folded into the newly formed Department of Homeland Security and left a neglected program without adequate leadership (Holderman, 2005). Not until the landfall of Hurricanes Katrina and Rita in 2005 was the government's attention wrenched away from its focus on developing defensive strategies against terrorism and forced to address the nation's ability to cope with and recover from its vulnerabilities to natural hazards.

Under FEMA's Bush-appointed director Michael Brown, response to the approach and landfall of Hurricane Katrina was seriously delayed. Many Gulf Coast residents lacked adequate resources to evacuate ahead of Hurricane Katrina, and with no preemptive government assistance, remained to weather the storm in place (Smith, 2006). In New Orleans the storm's fury, compounded by the storm's surge and levee failures, resulted in heavy damage and flooding to neighborhoods, leaving many residents with no access to food, clean water or electricity. With few alternatives, residents traveled however they could to the New Orleans Convention Center where they believed basic assistance would be provided by government agencies.

While coordinated federal and state government responses were weak in the case of Hurricane Katrina, there are significant examples of local level community and neighborhood responses that successfully drew upon social and cultural capital. The tight-knit New Orleans East Vietnamese community did not expect outside help, and effectively responded internally to the forewarnings of the approaching hurricane. With strong leadership and assets of cultural and social capital, community members who were

willing to leave were evacuated well in advance to other Vietnamese communities outside of the threatened areas. Some leaders stayed in New Orleans through the storm to look after property and the people who remained. When the hurricane passed, community leaders went through their neighborhoods taking pictures of people and property to show those who had evacuated, assuring them of their family's safety. As soon as they could, community members returned and collectively began rebuilding. When the city and utility companies refused to reconnect water and electricity in the area, the community leaders persisted, building political capital, collecting signatures of the people who had either remained or returned, and were successful in getting the services re-established to their neighborhood. Asked how they were able to start rebuilding just six months after the hurricane, community leader Rev. Nguyen suggested that while some people simply live next door to each other without building relationships, in their area of NE New Orleans social and cultural investments between neighbors had been established and built upon, adding to their community's resilience and capacity to survive as an intact community (Patterson et al., 2010).

The same key roles of social ties, leadership and preplanning for survival in disasters, were demonstrated by two communities caught in the 2004 Indian Ocean earthquake and tsunami. All but seven of Simeulue Island's 75,000 residents survived despite it being the closest island to the earthquake's epicenter (Taipei Times, 2005). Story telling is a deeply engrained oral tradition in Simeulue and many of the islanders were familiar with tales of repeating incidents of tsunamis occurring approximately every 100 years. The last tsunami had occurred in 1907. Their stories repeated the sequence of

first the ground shaking, then the ocean's draw down followed by the arrival of a deadly tsunami, called "Semong". These stories told by the elders provoked Simeulue's residents to prepare, practice evacuation to high ground and store necessary goods safe above the tsunami's reach. When the same signs occurred in 2004, many islanders knew what to do, sounded alarms and lead hasty evacuations to high ground (Taipei Times, 2005).

A second story from the same region, that of the Moken people who live on the Surin Islands of Thailand, reiterates the importance of preparedness, local knowledge, strategies of cooperation and investment of resources for survival. They also shared an oral legend. Their legend told of the "Laboon", the angry god of waves that visits every two generations following violent ground shaking and an unusual withdrawal of the ocean. Memory of their legend, coupled with the earthquake and the ocean's drawdown alerted the Moken to gather their people and run up onto the hillsides. Drawing on their social and cultural capital in the moments following the earthquake, everyone in their 184-person community survived (Stevens, 2009).

These examples of lives saved by strong networks of community capital help to illuminate challenges faced in many American communities to mitigate and prepare for disasters. Successful disaster mitigation strategies include maintaining face-to-face relationships, developing trust and investments of assets that lead to reciprocity, a familiarity with local risks, preplanning and practice. In contrast, Americans in the 21<sup>st</sup> Century have replaced much of traditional community and neighborhood relationships with fundamentally individual activities such as hours spent watching television, interspersed with shopping and making social connections away from home and through

social media (Putnam, 2000). Individuals cannot develop social capital without participating in a group, and focusing on individual activities elsewhere takes time away from developing face-to-face group relationships at home that may be counted on in an emergency.

The word “community” is popular in 21<sup>st</sup> century American vernacular, suggesting a group that is bound by commonalities. But like the word “culture”, “community” needs to be contextually defined and examined (L'Annunziata, 2010). Sociologists describe essential elements of community – a place, a social group and one’s identity – as the core of the historic concept of community, all of which were often found in the same place. With the advent of cars and increased ease of travel in the United States, the term “community” is no longer confined to the locale where a person lives, but more often refers to groups who share common interests and/or common values, but who may otherwise have very different lives, experiences, homes and cultures. While these bridging relationships potentially add to a breadth of understanding, experiences and opportunity, these new “communities of interest” do not typically provide the traditional benefits of developing trust and reciprocity through face-to-face relationships that can develop in “communities of place” (Flora, et al., 2003).

In 2004 OxFam America produced the report *Weathering the Storm: Lessons in Risk Reduction from Cuba*, lauding Cuba’s social and economic planning to reduce risks in anticipation of the island’s annual exposures to hurricanes. In their report, three factors were identified as crucial for successful risk reduction: 1) strengthening community capacity to effectively prepare and respond, 2) a strong coordination of local actors

before, during and after disasters occur, and 3) investing in social capital (Thompson & Gaviria, 2004). The assets of social capital invested in by Cuba's government and its people include fostering cooperation and inclusion, rewarding discipline, taking responsibility, emphasizing, developing and nurturing cooperative working relationships, and investing in people's organizational abilities and response skills through year-round preparations and annual drills (Thompson & Gaviria, 2004).

In contrast, standard government efforts in the United States encourage highly mobile Americans to be individually prepared for disasters by purchasing a kit for their home, car and office, with little mention of neighbors or community preparedness. Successful Americans, meaning those who have adequate work, personal transportation and who can afford to surround themselves with their wealth of things, can feel secure when at home as long as conditions remain unchanged. But if conditions suddenly change and a hazard turns into a disaster, many Americans may be caught away from home, or at home in isolation. "Bridging" relationships away from home have personal and economic value, but if a disaster occurs when at home, having strong social relationships in one's neighborhood may be what saves lives (Putnam, 2000).

Social groups in the United States have historically helped to fill the gap between households, their community and the government. These groups include churches, schools, Masonic orders, granges, 4-H and Rotary clubs, cultural communities and ties in neighborhoods. Through participation in these groups, people have been connected and accounted for in their day-to-day lives. When hazards occur people are able to draw on social investments in their communities for temporary housing, emotional support and

access to resources such as clothing, food, communication and transportation (Seidenberg, 2006). Community groups are still very visible and active in small cities and rural areas in the United States, but Putnam in his well-titled book “Bowling Alone” rigorously documented a sharp decline in American’s joining groups in the years following W.W. II and the beginning of the 21<sup>st</sup> Century (2000).

Adding to these social challenges to implement preparedness strategies in the U.S. is a persistent belief that technology will prevent major disasters, and the government will fill in the gaps where and when necessary. In New Orleans many people believed the levees, floodgates and sump pumps built and managed by the Army Corps of Engineers would protect them from storm surges, and they would be rescued if they were put in danger (Bourne, 2007). Instead, neighbors and what social ties they had were scattered when flood waters rushed through broken levees and over-topped flood gates, drowning their homes, leaving many either homeless in the flooded city, or flung far by random evacuations to face horrific conditions in the days and weeks following landfall of Hurricanes Katrina and Rita (Tootle, 2007).

Similarly, many deaths that occurred in Japan following the earthquake of March 11, 2011 have been attributed to the belief that modern technology would keep communities safe. In some coastal communities, thirty-foot high sea walls had been constructed with the belief that if a town’s people could survive an earthquake, vertical evacuation and the height and strength of the walls would be enough to keep them safe from the highest tsunami. Like in New Orleans, Japanese confidence in technology may have contributed to people choosing to shelter in place rather than quickly evacuating to

higher ground after the earthquake. Megumi Sugimoto, the first Research Associate at the University of Tokyo's Earthquake Research Lab to be appointed to work on vulnerability and disaster preparedness issues has emphasized that everyone should be educated about the possibility that any hazard event may be larger than anticipated, suggesting that it was the optimistic expectation of the sea wall's ability to hold back the tsunami waves that enlarged the Japanese disaster (Sugimoto, 2011; Towers, 2008). Similarly confidence in technology also allowed nuclear power plants to be located on Japan's coast within the tsunami inundation zone. While the reactors were relatively undamaged by the earthquakes, the tsunami's force had not been anticipated or planned for, and no one was able to curb the release of radioactivity in the weeks following the tsunami (Sugimoto, 2011).

Anticipating danger is stressful and thus ignoring it is common. Elliot Aronson, a researcher of human behavior, studied human strategies of coping with danger. He observed that when people are frightened they will either take action or, if the danger is too overwhelming and no constructive action is known, will unconsciously change their perception of how dangerous their situation is, and not act (2008).

“The higher the fear and the more concrete, effective, and doable the recommendation, the more likely it is that people will comply. But research has also shown that if you scare the hell out of people and fail to provide them with all three of those factors, then fear will not produce reasonable responses to danger. Instead, it will produce denial” (Aronson, 2008:857).

Thus applied to hazard management, it would be important to both scare people and provide practical steps people can take to be better prepared. James Roddey, the

Earth Sciences Information Officer for the Oregon Department of Geology and Mineral Industries (DOGAMI) is billed ahead of his speaking engagements as the “Prophet of Doom” (Patterson, 2011). Funded by federal money through the State of Oregon, Roddey crisscrosses Oregon and Washington State doing the job of getting people scared and hopefully motivated to prepare for tsunamis, earthquakes, floods, volcanoes, and any other natural hazard that might put them in danger. With the prediction by Chris Goldfinger of Oregon State University of a one-in-three chance that a major quake will strike the west coast of the U.S. by 2061, Roddey’s success at getting people scared is good preparation for positive mitigating action (Lovett, 2010; Patterson, 2011).

As a mitigating strategy, the CERT training model potentially offers a framework for people to come together for the shared purpose of preparing for hazards. The training modules that make up the basic CERT training include all three of Aronson’s criteria (concrete, effective and doable) to provoke action rather than denial. CERT training offers the opportunity to practice the concrete skills of bandaging, splinting and carrying victims, the use of fire extinguishers, how to lift a heavy object off of a person, and what to do in case of a gas leak. Participants also have opportunities to experience effective actions; putting out a fire, freeing a person from being trapped, physically carrying an injured person, practicing search and rescue, and learning how to size up a situation to keep team members safe. All of these tasks are doable, particularly when working in a team.

In 1993 FEMA’s director under President Clinton, James L. Watt, adopted the CERT model for training people in disaster response and made it available nationally,

signaling a shift in government planning from considering citizens as helpless victims to considering them as agents to be included in planning strategies for response (Berke, Kartez & Wenger, 1993; Brennan & Flint, 2007). Following the discontinuance of the Project Impact Program in 2001 federal money was no longer designated to support comprehensive community-wide mitigation efforts, however the individual training of CERT volunteers continued across the country. After 2001 under the Department of Homeland Security, CERT programs were managed by USA Freedom Corps' sub-organization Citizen Corps. Citizen Corps was funded in 2004 at \$40 million, and in 2005 was reduced to \$15 million, critically defunding CERT (Brennan, Barnett & Flint, 2007).

Almost at the same time, in 2004 the Department of Homeland Security published the National Response Plan that directs the coordination of response between multiple agencies, dictating response to hazards must be handled at the lowest possible jurisdictional level (Brennan & Flint, 2007). This is also where local response is considered by state and county planners and practitioners to be most effective, during the "golden hour" following an incident (Helsloot & Ruitenber, 2004). While the mandate made sense in regards to rapid response, federal funding cuts for local hazard mitigation made it difficult to build adequate response capacity in less populated jurisdictions, increasing the potential for hazards to turn into disasters (Helsloot & Ruitenber, 2004). As a result, after 2005, organizing local volunteer response groups like CERTs was increasingly critical, and difficult for rural jurisdictions planning disaster response (Brennan, et al., 2007).

While the difficulty to fund rural community efforts for disaster preparedness is noted in the literature, an examination of the efficacy of the CERT model when adopted in rural areas is absent. Designed as a strategy for citizen response in an urban setting, are the skills that make up the CERT training modules appropriate and adequate in less populated areas? City neighborhoods are generally compact, and there are multiple responding agencies such as fire departments, police departments, ambulance and hospitals in relatively small areas. People that need emergency services can often be reached by professional responders in a short time. In an urban setting the CERT training's focus on documentation and knowing the Incident Command System structure, both factors important to assure the best hand-off of operations when professional responders arrive, is useful but may not be so important in rural settings.

In rural areas, tending to just a few people with injuries may require professional responders to travel great distances taking critical time. A single trained volunteer could be the only responder available. It may be crucial for them to know, in addition to how to staunch bleeding, how to use emergency communications, how to safely transport an injured person in a vehicle, and potentially how to use a chainsaw to clear a roadway of debris. Without more professional response capacity, rural volunteer responders need to know their local risks and expand their personal skills, and is this possible within the framework of the CERT training model (Brennan & Flint, 2007)?

In this study I explore this gap by asking whether the basic CERT training model designed for an urban response, provides adequate disaster preparation for people living in rural areas along the coast of northern California, Oregon and Washington State. Are

the same preparedness strategies that were developed in urban areas sufficient and adaptable to satisfy response needs in areas where professional responders may not be able to reach an isolated household or rural community for several hours, if not several days? And what adaptations have rural CERTs made or need to make to be effective? I also ask if the basic CERT training contributes to a rural community's social capital before a disaster occurs, building relationships of trust and reciprocity among CERT participants, and between the CERT and their communities? If so, does that social capital enhance a CERT's ability to persist as an organization and to help its community mitigate, prepare, respond and recover from disaster events?

## METHODS

### Positionality

My interest in preparedness crystallized in August 2005 when I was working for a non-profit disaster shelter company. We assembled clips and ties, plastic pipe and a pattern to put together with tarpaulins that the United States Agency for International Development (USAID) typically delivered folded in bundles to serve as temporary shelters for victims in international disasters. The kits made it possible to raise the “tarps” up into Quonset hut-shaped shelters capable of housing a family, equipment, communication centers and even emergency clinics. Until the spring of 2003, my son had attended school in Louisiana and drove ambulances in New Orleans. The previous year he had participated in all-hazard disaster drills in the city, and when he saw Hurricane Katrina approaching New Orleans, he called me; “Mom, you’ve got to look at this storm! It’s the one we had trained for but hoped never to see.” On-line I could see the satellite photo of Hurricane Katrina as she moved across the Gulf of Mexico. Thick clouds formed a dense donut of high winds and torrential rain. I called my boss and suggested we shift our focus from international shipments of our shelters to sending them to the southern coast of the United States. Two weeks after Hurricane Katrina slammed into the Gulf Coast, a young team of volunteers took 73 shelters south to find ways to help. As Operations Manager, I stayed behind in Arcata, CA in an empty warehouse and reflected. I had lived in the same neighborhood for 25 years, yet I didn’t know most of my

neighbors more than to say hello. We would not be terribly different in the event of a major hazard than many people in New Orleans, unprepared, and waiting for our government to bring us aid.

In 2006 I began organizing my neighborhood to be disaster prepared. Of seventy-five households I counted in my three-block area, eight to twelve households, primarily homeowners, regularly attended these meetings. When I talked with the Arcata Chief of Police, I found out that the city did not anticipate being able to help out in the neighborhoods, potentially for days, following a major hazard event such as a Cascadia Subduction Zone earthquake. They would be scrambling to address damage and repair to water and sewer systems, electrical supply, infrastructure, businesses, fighting fires and attending to the needs of those severely injured people they could reach. The anecdotal evidence showed that citizens of Arcata would need to create their own safety net in the case of a large natural hazard incident.

I had heard of CERT, and I talked with the local Red Cross chapter about where my neighbors and I could obtain the CERT training. For us to get CERT trained, we were informed we would have to travel approximately 300 miles away, to the San Francisco Bay Area or Sacramento. Individuals in my neighborhood continued to meet, exchanging contact information and taking inventory of skills and equipment amongst us until July 2006 when I began full-time work in a different non-profit organization. When I was no longer able to focus my attention on neighborhood organizing, the meetings ended.

In 2009 I was accepted into the Environment and Community masters program and introduced to Dr. Yvonne Everett. We share a passion for preparedness. When we began to look for more information on CERT, the literature was limited. Together we contacted Humboldt County's Office of Emergency Services (OES) officer Dan Larkin. He provided us with the history of the defunding of citizen-focused preparedness efforts in our county. We talked with the Red Cross chapter community outreach representative Linda Nellist who had administered a thriving Neighborhood Emergency Support Team (NEST) program for the county before losing funding. Nellist reported enthusiastic participation in NEST, a response program focused on neighbors helping neighbors during disasters, as long as she was funded to provide leadership and support. She confirmed that there was no longer local access to comprehensive CERT training, and there were only a few other preparedness classes for community members to help them prepare for hazards: first aid and CPR classes taught by Red Cross; classes specific to the Red Cross mission of providing food and shelter during disasters; and an occasional HAM radio class taught by volunteers. There was clearly a need in our community for more comprehensive preparedness planning.

I began to gather more information about CERT. Researching the CERT training model was partly for the purpose of finding an adequate vehicle that I could use for my own and my neighbor's training so that we would be able to live through a major shock. I wanted to have the capacity to not only survive a major hazard event but also have resources in friendships, familiarity and skills that we could share with others. Since there were only fragments of capacity to get CERT training in northern Humboldt County, I

wanted to find out how concerned people in other rural areas with similar threats were able to get CERT training and adapt it to make it relevant for the risks in their own communities. Because of my personal interests in preparedness training I searched for research methods that would not deny my interests and would open me to developing new perspectives on the viability of CERT training through the eyes of those who participated in the study.

I wanted to assess if the CERT training, developed for urban populations, would be adequate and adaptable to serve rural citizens who may be isolated and potentially without professional response for hours. I also wanted to find out what strategies were being used by other rural communities to keep CERT-trained individuals engaged. Were bonds of trust and reciprocity developed that helped maintain their CERTs, and did those bonds contribute to their communities' ability to respond when a disaster occurred? Answering these questions would help reveal if pursuing the CERT training for my own neighborhood and other rural communities made sense, both financially and practically.

### **Epistemology and Methodology**

I chose to conduct my inquiry as a qualitative study inspired by the philosophical foundation of social constructivism. That is, I conducted my research as a subjective examination of community preparedness, combining my own perspective with that of the participants to arrive at an assessment. I relied on those participating in the research to subjectively give meaning to their own experiences in hazard preparedness, both in

relationship to their community and in relationship to me as the researcher (Creswell, 2003). Following Creswell's suggestion, I kept the research questions broad to allow the participants' own experiences to direct the inquiry (2003). Through my assessment of successive participant responses, the ideas first addressed by my research questions were broadened, reframed or replaced by others.

Having come to this research with multiple questions and some experience in community hazard mitigation planning, I approached my inquiry methodologically based on constructivist grounded theory. Dr. Everett and I initiated a survey of CERTs on the Pacific Coast. Our intention was to pose questions that would allow us to see what "is" through the eyes of the participants as a basis for making our assessment of the CERT training (Babbie, 2007; Esterberg, 2002; Glaser & Strauss, 2009). Following the survey I conducted face-to-face interviews using interview guides containing a basic set of questions. In successive interviews I restated existing questions and added more as I learned from participants' experiences (Babbie, 2007; Esterberg, 2002; Glaser & Strauss, 2009). For example, I first thought to ask key informants if the CERT training model was adaptable for their use in a rural setting? This question quickly became unnecessary because all of the key informants interviewed had adapted the CERT training model to their circumstance. Other questions became more seminal such as how have you adapted the CERT for your area? What have you added? In this way, by taking into consideration the participants "empirical realities," I drew new comparisons to the data, altering my previously held beliefs and made observations incorporating my experiences with the responses of participants (Charmaz, 2005; Mills, Bonner & Francis, 2006).

## Methods

A mixed methods case study approach was employed for the benefit of both gathering numerical data and subjective interpretations of the participants' experiences (Berg, 2009). The research was conducted in phases; the first was an on-line survey of CERT leaders in California, Oregon and Washington State carried out with Dr. Everett, and the second was face-to-face interviews of selected CERT leaders drawn from the survey participants who lived in small towns and coastal areas of California and Oregon.

The on-line survey was sent to all CERT leaders in California, Oregon and Washington State who were listed on the FEMA Citizen Corps website as of August 31, 2010. In October 2010 we sent a pilot survey to five Humboldt County officials and individuals with knowledge of CERTs. With feedback drawn from the participants in the pilot survey, additional instructions were added to the cover letter clarifying the mechanics of how to answer the survey questions in the on-line survey tool, Survey Monkey. On November 6, 2010, 332 surveys were sent to the California, Oregon and Washington State CERT leaders. 89 of the 332 CERT leaders (27%) consented to participate in the study by submitting their answers online through Survey Monkey. 64 of the 89 completed all of the questions. The questions were chosen to provide a basic characterization of CERTs including their size, composition, age, response area, organizational structure, funding sources, level of training, experience responding to hazards, affiliations with other organizations, challenges, and questions regarding the

development of social capital within their communities. (See Appendix A for a complete list of Survey questions).

Descriptive statistics were used to analyze the survey data following a tally of the survey responses. Graphs were produced in Excel when useful to better illustrate the numerical data collected. The open-ended responses were analyzed by coding similar responses, tallying them, then identifying patterns and themes developed across the survey.

The second phase, consisting of face-to-face interviews, was initiated as a research vehicle to draw out more nuanced and in-depth responses that were not expressed in the survey format. Conducted solely in small cities and rural areas, the interview questions focused on the adaptations made to the CERT training model for rural use, its adequacy in these settings, and elements of social capital that may have developed through participation.

The survey respondents provided a pool of willing participants living in California, Oregon and Washington State that were active CERT leaders. I contacted respondents via email who lived in small cities and rural areas near the coast of California and Oregon to inquire if they would be willing to be interviewed to further discuss their perceptions of CERT. Those who agreed, I called and explained that I wanted to explore how the CERT framework functioned as adapted in their area, and whether or not the CERT framework contributed to building social capital.

Through the process of snowball sampling with key informants providing introductions (Berg, 2009), I also conducted interviews with disaster planners, educators

and response professionals who were not CERT leaders, and individuals who had heard of CERT but had not participated in CERT training. These additional informants provided useful insights into priorities for funding citizen emergency response, the current state of disaster response planning, and a picture of what rural residents who lived many miles from medical aid were doing to prepare. During January and February of 2011, I interviewed twenty-eight people between coastal Astoria, OR and Buellton, CA.

The interviews of CERT leaders were conducted in each respondent's community in a mutually agreed upon location such as at their place of work or at a coffee house or restaurant, where the interview could be conducted relatively uninterrupted for approximately one hour. Some interviews lasted for as long as two hours. There was no offer of payment for either participating in the survey or in interviews. The interviews were documented through notes taken during the interview process, followed by a summary write-up carried out immediately after each interview. The format used was that of a semi-structured interview facilitated by an interview guide (See Appendices C, D and E). Following the grounded theory approach of gathering data, the questions changed as the interviews proceeded, allowing for the participant's perspective to guide our exchange to those topics they considered most pertinent.

The twenty-eight people who were interviewed for this research divided into three groups: sixteen were leaders in CERT organizations. In some cases leadership was shared by more than one person. Nine were CERT trainers, disaster planning officials and/or first responders who would have occasion to interface with individuals and community groups in the event of disaster situations, whether CERTs or otherwise.

Three individuals were residents living in rural areas that were not affiliated with a CERT organization, but expressed an interest in sharing their rural preparedness strategies.

The interviews were conducted using guides that asked questions specific to the individual's relationship to disaster response. CERT leaders responded to questions that were crafted to reveal the efficacy of the CERT model when adapted in areas with low-density populations. Since coastal counties of Northern California, Oregon and Washington State are adjacent to the Cascadia Subduction Zone and significant stretches are relatively isolated from the more robust response networks of urban areas, I asked whether informants considered citizen and community efforts in their areas adequate for saving lives and mitigating property damage. Professional planners and responders were asked if they were familiar with CERT training, whether they had interfaced with CERTs, and what their perspective was on community members preparing themselves for disasters. Interview responses were analyzed by tallying answers that were repeated, recording numerical ranges (ex. the length of time a respondent thought it necessary to expect to be on their own) and noting unique perspectives. This data illustrated a range of development of citizen disaster preparations in these areas, what was possible and what still needed to be done. (See Appendix C, Interview Guide for CERT Leaders, Appendix D, Interview Guide for Disaster Response Officials, and Appendix E, Interview Guide for Disaster Planning Professionals – Non-CERT Affiliates)

## **COMMUNITY EMERGENCY RESPONSE TEAM TRAINING MODEL**

At the national level the Citizen Corps, coordinated by FEMA, supports local volunteer organizations, nonprofits and individual volunteers, including CERTs. Their declared goals are:

“First, present citizens the facts about what to expect following a major disaster in terms of immediate services. Second, give the message about their responsibility for mitigation and preparedness. Third, train them in needed life saving skills with emphasis on decision making skills, rescuer safety, and doing the greatest good for the greatest number. Fourth, organize teams so that they are an extension of first responder services offering immediate help to victims until professional services arrive.” (Flint & Brennan, 2006; Citizen Corps, 2012).

The CERT training model is the federal government’s expression of this mandate to be implemented at the local level. A ‘CERT’ may refer either to an individual trained to the specifications of the CERT curriculum, or a group of individuals who have taken the basic CERT training together. They may also be defined as a CERT by choosing to invest additional time to act as a response team. It is important to note the assumption cannot be made that CERTs are always teams of people working together.

Certified trainers, subject area experts and first-responding professionals teach the CERT curriculum to individuals with the goal that participants become familiar with, and practiced at responding to emergencies in an effective and positive manner until professional responders are able to arrive on scene. In CERT training volunteers receive

approximately 20 hours of instruction, followed by a hands-on disaster simulation practice drill. The class time is made up of training modules which include an introduction to disaster preparedness, fire suppression, triage, basic first aid, disaster psychology, team building, logistics, communications, light search and rescue, and how to interface with local emergency management services in an emergency. Throughout the CERT training the guiding mantra of professional responders is repeated, “the greatest good for the greatest number” imploring CERT volunteers not to focus on the needs of any one individual in their first assessment of a scene, but to focus on helping the most likely to survive first, and then return to those in more and more critical need. The CERT training primarily focuses on response in the first hours of an emergency or disaster, and repeats that the volunteers always consider their own safety first.

In 2011 the CERT training materials were thoroughly reviewed and carefully updated by the training staff of the Emergency Management Institute (EMI) the national center for emergency management training under FEMA. Their purpose was to bring CERT training materials in line with the Train-the-Trainer and CERT Manager materials. This effort was intended to tighten up the parameters of what is being taught to CERT volunteers to support the promise of a consistent and credible volunteer organization (S. Gurlich, personal communication, October 23, 2011).

Upon completion of the CERT training, participants may choose to form a team, or volunteer with a responding agency, or act as individual citizen responders by taking their training back to their home or workplace. The LAFD trainers called this latter group of individuals “catch and release,” people who took the training but did not affiliate with

anyone else, with the understanding that if they used the training they had received to assist in an emergency, then the training had been useful. Some CERT trained volunteers choose to affiliate with members of the training in which they participated and become a team, or join an existing CERT group, or to organize groups themselves at work, schools, at home or with other people with whom they interact. They may suggest to their group that they form a team and take the CERT training together. All of these iterations may be referred to as a CERT, but the designation “CERT” does not necessarily mean a team.

Financial support for CERT training may come from anywhere; fire departments, police departments or county governments sponsoring CERT trainings, who potentially provide their own staff as trainers. Service groups or faith-based communities may provide funds to sponsor the training of their own members or open their training more generally to all members of their community. When risks outweigh commitments to other activities in their lives, community members also do their own grassroots fundraising to support a CERT.

Although there is no official certification for this training, the FEMA EMI trainers emphasize during their Train-the-Trainer course that the content of the training needs to be taught in its entirety as written in the training manuals, before a person or group can be considered CERT-trained. Upon completion the trainers are encouraged to present participants with certificates of accomplishment. Additional instruction may be added to the basic training modules to reflect regional threats. Hazard annexes are available to be downloaded at the Citizen Corps/CERT website and include sections on earthquakes, structure fires, forest fires, floods, excessive heat, hurricanes and coastal storms,

landslides, mudflows, severe thunderstorms, tornados, volcanoes, winter storms, nuclear power plant emergencies and pandemic flu. Supplemental training is also available through the Citizen Corp website including courses such as TEEN CERT, a search and rescue tutorial and two modules on animal response during disasters. New materials have been added throughout 2012.

Without regard for the type of disaster that may occur, local capacity determines the ability of a community to respond and recover from a disaster event (Flint & Brennan, 2006; Tootle, 2007). With state and federal budgets for disaster response shrinking, volunteer organizations focused on resilience are more and more critical to the well being of communities. Membership in CERTs shows an effort by local residents to be engaged and responsible, willing to be involved in strengthening their own capacity to respond as well as to help others in an emergency.

## RESULTS

Sixty-four leaders of CERTs from all over California, Oregon and Washington State completed the on-line survey, their responses facilitating comparisons between urban and rural CERTs. From this pool of survey respondents, key informants who lived in small cities and rural areas were interviewed in their home communities to help characterize adaptations made when developing their CERTs, and to explore the adequacy of the CERT model for adoption in rural landscapes. Evidence of capacity building through affiliations, both inside CERTs between members and between CERTs and outside affiliate entities, were sought to determine the development of social capital.

Figure 2 illustrates how the CERT leaders who responded to the survey identified the area in which they served with regard to populations and settlement. 70% of the participants identified their CERT's response areas as being urban or at the edge of an urban area while those responding who were from small cities and rural areas made up 30%. The range in size of response areas was dramatic, ranging from ten acres to 58,000 square miles. One third of the respondents reported their response areas to be larger than 100 square miles. Populations ranged from 647 people in a response area to 3,000,000.

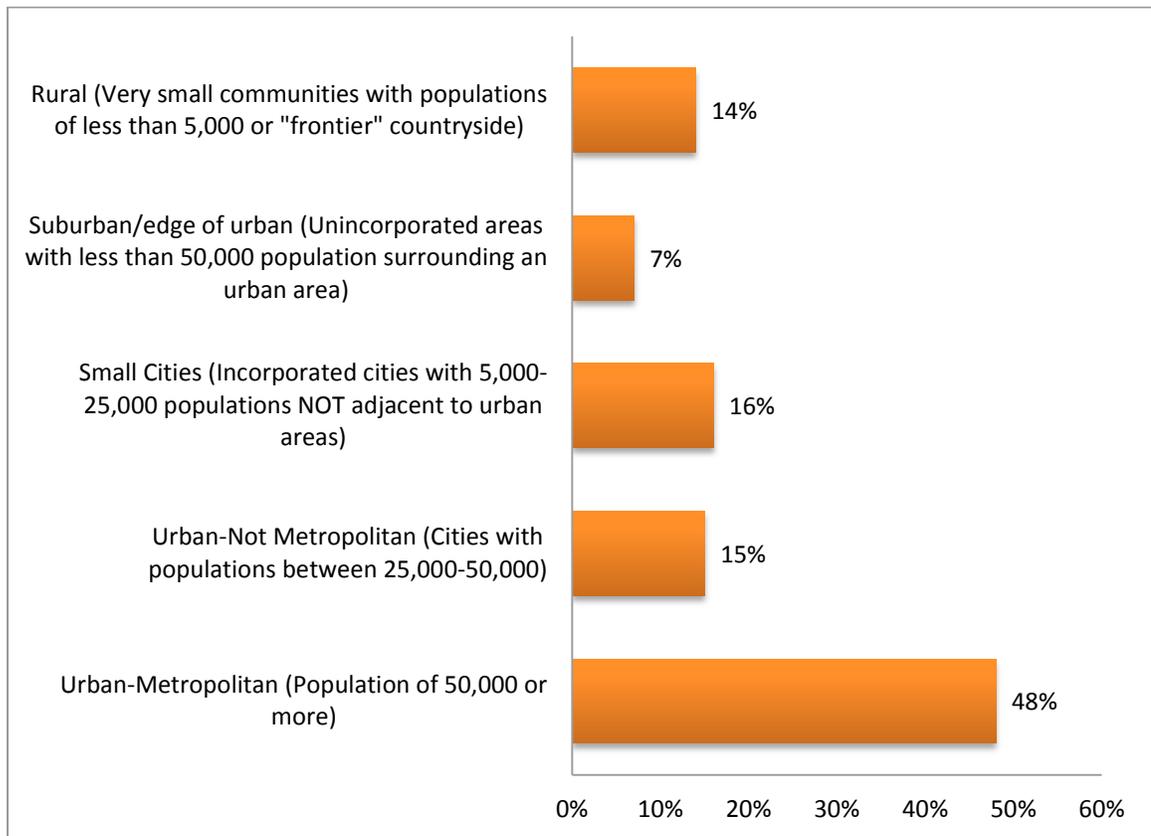


Figure 2: Distribution of CERTs Surveyed by Population and Settlement Pattern

Table 1: Average Participation in CERTs by Settlement Pattern and Years in Operation

Population Density	# of CERTs	Years in Operation	Average # of Members	Average # Who Regularly Participate	Average # Who Would Respond
<b>Urban-Metropolitan</b>	31	8	455	59	112
<b>Urban-Not Metro</b>	10	10	253	45	149
<b>Suburban</b>	4	6	121	46	58
<b>Small City</b>	10	5	74	29	46
<b>Rural</b>	9	4	62	17	34

Table 1 illustrates that in the survey sample on average there are greater numbers of CERTs with more members in the urban areas, and they have been operating for nearly twice the time as those in rural areas. But, while more members were counted in urban areas, the percentages of members who participate regularly and expected to respond to an emergency was higher in rural areas than in urban (32% participation in rural areas versus 18% in urban areas, 55% expected response in rural areas versus 38% in urban areas.)

Age and gender distribution of participants in the CERTs surveyed was similar whether urban or rural. The dominant age of participants in urban CERTs was between 31 and 64 years (50%), followed by participants over 65 (25%), 19-30 (21%) and 18 and younger approximately 4%. In rural areas 44% of participants were 31-64 years old followed by 29% 65 years or older, 18% 19-30 years old and 9% 18 years or younger.

The gender division of participants in urban areas was 45% men and 55% women; in rural areas there were 49% men and 51% women.

I used interviews to further explore the differences between urban and rural CERTs focusing on adaptations made to the CERT training, its adequacy and its ability to enhance community capital. Responses that best illuminated adaptations were concerned with: the need for citizens to be educated about risks, experienced in appropriate responses, and to personally prepare for possible emergencies; the importance of affiliations between citizen preparedness efforts and professional responders; the importance of adequate funding and having experienced hazards to sustaining participation in CERTs; the importance of strong leadership, and of citizens taking the initiative to organize themselves to participate in their community's mitigation efforts.

### **Citizen Education and Personal Preparedness**

Volunteer CERT leaders indicated that preparedness and education were important to enhance citizen resilience in a hazard event. Those interviewed were dedicated to the CERT model as a means to educate and help prepare citizens by bringing them together to learn about hazards and to train them to respond in disasters. One CERT leader characterized the CERT training as a good starting place for preparedness efforts, giving citizens at least basic knowledge they could use in their own homes, if not in a team helping neighbors and assisting professional responders.

Leaders living in sparsely populated areas along the coast were very aware of the potential to be isolated by severe storms, earthquakes and tsunamis, which they said stimulated them to get involved in community preparedness education and training. When asked how long people should be prepared to be without access to their normal sources of food and water in a disaster, answers ranged from five days to two weeks. The folks in areas with the potential to be isolated generally considered longer times, one to two weeks to be the minimum. One couple that ranches in a remote rural area of California answered that they didn't expect government help at all and were prepared to be isolated with their families for up to six weeks, with fuel for their equipment the primary limiting factor of their self-sufficiency.

CERT leaders reported a variety of desired outcomes from providing CERT training, from simply wanting to offer CERT as a stand-alone training that provides basic response skills to individuals, to hoping to develop new leaders who would be dedicated to developing response teams and continue training, supporting and expanding their community preparedness efforts. Many of the respondents wanted more opportunities to train and to engage their teams in preparedness-centered activities in the absence of live responses. Types of disaster preparedness educational opportunities leaders reported their CERTs taking advantage of included: first aid and CPR classes, amateur radio training, animal rescue, "Map Your Neighborhood", Red Cross shelter training, "Ready, Set, Go" classes, TEEN CERT, volunteer fire fighter training, learning about weather and geology, wilderness first aid and survival training, search and rescue, and additional training in the National Incident Management System (NIMS).

CERT leaders reported engaging in their communities to promote community-wide education regarding basic preparedness by providing preparedness information door-to-door, installing free smoke alarms, talking about fire safety, giving presentations about disaster preparedness at schools, churches and service organizations, and staffing tables offering preparedness information at community events.

While leaders felt there was no question that individuals might be affected by disasters, a few expressed frustration at the difficulty of raising awareness and getting people prepared and involved in CERTs. This lack of interest in preparing was in part attributed to many citizens believing that the government would take care of them if anything happened. It was also noted that populations in rural areas were often poor, and that it was difficult to convince people with limited resources to do anything more than the subsistence efforts they were already engaged in. One county emergency services coordinator shared his strategy to engage the community by “guilt-tripping” parents. He reported going into schools to teach children disaster scenarios and preparedness strategies, anticipating that some would take their knowledge home and effectively pressure their parents to actively prepare. Another idea to promote education was to have the trainers be all different ages so that it was conveyed that disaster response education was of value to any age group in the population. It was also seen as important to have professionals and first responders as trainers to show their support for the CERT training and to encourage preparedness activities. Many CERT leaders considered participating in drills with community planners and first responding agencies increased interest in preparedness and taught CERTs more about what to expect in a live disaster beyond what

they had learned in the basic CERT training. “Drill! Drill! Drill!” was how one CERT educator responded to a request for advice to other leaders as the best way to teach response skills.

### **Importance of Affiliations**

Collaborations between governments, planners, community leaders and volunteers were lauded, desirable and at times difficult to accomplish. Who CERTs were able to affiliate with was a valuable indicator of their staying power. Both professional responders and CERT leaders stressed the importance of affiliations between CERTs and responding agencies. Professional responders reported they needed to know what volunteers were capable of, and voiced concern that the CERT-trained community members would try to do something beyond their skills and injure someone, or become victims themselves. In turn CERT leaders were emphatic in regard to the value of their organizations being affiliated in some way with disaster professionals to inform professional responders of CERT members’ character and skills. CERT leaders felt that without affiliations with responding and planning agencies, they would not be considered legitimate, or have the opportunity to be a part of a coordinated response and use their skills in a major event.

When a county agency such as the Office of Emergency Services or a fire department initiated a CERT, they were likely to be more active and persist than if started by unaffiliated citizens. Survey respondents noted fire departments were the most

common affiliating agency. Fire departments that supported CERTs included the members in drills, trainings, “live” emergency responses and in community service. Both the affiliation and participation in the activities were considered important in keeping members interested and to maintain the support of the affiliating agency.

While no one said the CERT model was bad, some professional emergency responders interviewed had a more mixed response than CERT leaders about the model, particularly if they weren’t involved in the development or training of a CERT. Although public education was consistently identified as necessary, among rural professional responders there was not an agreement that CERTs were valuable enough for them to invest their time and resources. In contrast, in a mixed rural and edge-of-urban area that had suffered a severe earthquake, the fire fighter in charge of developing CERTs enthusiastically supported CERTs as having tremendous value. He considered their greatest strength to be sizing-up conditions in their own neighborhoods in an emergency and establishing a central location as a point of contact for the CERT to meet with professional responders to pass on crucial information. This saved the responders from the time-consuming process of having to go door-to-door to assess conditions of structures and discover who needed critical care, and reduced the possibility of missing someone needing their immediate help.

Examples of affiliations included professional responders being CERT trainers, professional responders and CERTs participating together in drills, and CERTs being routinely called to assist in events where first responders were needed. These affiliations contributed not only to providing CERTs opportunities to practice but also to keeping

CERT volunteers engaged with each other in preparedness activities.

### **Challenges to Funding and Continuity for all CERTs**

Table 2: CERT Funding Sources Reported in the Survey

<b>Funding Source</b>	<b># of CERTs Reporting</b>
City and/or county budget line item	21
Grants	14
Dept. of Homeland Security (FEMA)	11
Donations	10
Fundraising	9
State	5
Citizen Corps	5
Fire Departments	3
Class Fees	3
Personal Funds	3
County	2
Tribal Government	1

Funding, identified as a key element in determining the success or failure of CERTs, was reported to come from a variety of sources (Table 2). State and local governments were primary funding sources. The most robust CERTs had consistent funding through their inclusion in annual city and county budgets. It was noted that being included in government budgets was more prevalent for urban CERTs than rural. Federal funding fluctuates, and it was reported that what did come to the states was distributed differently in individual states. Oregon used funds from NOAA's TsunamiReady,<sup>tm</sup> TsunamiPrepared program to involve everyone living in vulnerable coastal areas in preparedness activities (Oregon Department of Geology and Mineral Industries, 2009). Oregon funded facilitators and trainers for a five-year period (2009-2013) to promote education and mitigation. In California it was reported that money coming from the same pool of federal Homeland Security funds was distributed through the state to the counties, and the amount a county received was determined by its population. This distribution pattern is consistent with the incident command system's motto "the greatest good for the greatest number". The result was that California's policy directed the distribution of federal mitigation dollars primarily to urban jurisdictions.

Following state and local government contributions the next most robust sources of funding came from grassroots fundraising by citizens who took it upon themselves to support CERTs because they believed it was necessary to have the local capacity to contribute to response efforts. Supplementary fundraising was necessary for most CERTs, particularly in lightly populated areas.

Some private funders were reported to require CERTs to be affiliated with

established responding agencies to receive funding, equipment or in-kind donations. One-quarter of the CERTs reported that they were incorporated as 501(c)(3) non-profit organizations for the purpose of being able to receive funds and to diffuse the financial burden of liability.

The level and consistency of funding was reported to contribute to the continuity of CERTs by helping to provide on-going drills, paid coordinators, additional opportunities to continue training and to conduct outreach opportunities. One public official reported having received funding for several years dedicated to public preparedness, supporting a half time coordinator position. CERTs were trained and neighborhoods organized to respond in the event of a disaster. When the federal and state funding was progressively eliminated, the key organizing position was effectively eliminated as well, resulting in the virtual collapse of the county's community engagement efforts for preparedness.

While funding plays a major role in maintaining CERTs, another strong motivator for interest in preparedness was a disaster having occurred in the recent past, whether locally or distant. This motivating influence was reported to diminish over time and a concerted commitment by leaders was required to keep members interested. CERT leaders noted that residents who had directly experienced a disaster event and who had the capacity to respond were much more prone to engage in making preparations and getting involved in outreach and education in their own communities. Following the tsunami alert in March 2011 a CERT leader active on the Oregon coast wrote "It was a great "wake up call" for many, and there is much talk about getting 72 hr packs together,

NOAA radios (THE most important thing to have in your home!) and long term survival”. This CERT leader’s home was on the beach in her town. She recognized her own and her area’s vulnerability and potential for isolation, and was devoted to getting her community tsunami-ready. She and her associates had formed a nonprofit for hazard mitigation, aided by the state of Oregon’s commitment to community preparedness. Their efforts were robust, engaging as many individuals and organizations as they could on a daily basis, as well as in drills and continuing education.

Other reasons given as challenges to sustaining CERTs include loss of interest and lack of time. There was also the understanding that some individuals took the CERT training solely for themselves or their families, having no intention of becoming part of a community team. Some of the folks who were not interested in meeting regularly were willing to respond in a major event, but not for minor emergencies or civic functions. Lack of funds to pay trainers and to cover costs for additional classes such as CPR and HAM radio operations was also noted as a factor contributing to continuity challenges.

### **Citizen Leadership and Engagement**

Personal experience is a strong motivator. Some of those leading CERTs had been affected by disastrous situations when their homes or communities were cut off from state and county aid by flooding and landslides, results of severe storms. They had been isolated for periods of time when they had to care for their own needs. Their

experiences catalyzed them to take action to prepare themselves and their communities, and the CERT model offered them a framework.

Both CERT leaders and community planners spoke of the importance of having a strong and committed leader for a CERT to successfully fulfill its mission of being prepared to respond in emergencies and disasters. Traits used to describe a strong CERT leader included a person good at running the business of a CERT, successfully managing grants, arranging for trainings, and representing the CERT to the community and affiliate agencies. Research respondents note that a strong CERT leader also needed to be able to empower volunteers to take active lead roles in their organization, to be enthusiastic, willing to give praise and show respect for the volunteers. Effective leaders had qualities that included good public speaking skills, the ability to do fundraising and to establish and maintain positive relationships throughout the community. CERT leaders and community planners agreed that it was difficult to engage people to get prepared on their own behalf, and even more difficult to get them to spend the time to get CERT training or to engage as a team.

### **Vulnerabilities of Rural Areas**

During interviews participants were asked to consider how population and location affected the vulnerability of their communities, and to discuss their CERT's ability to respond to hazard events that might turn into disasters. Professional responders and planners agreed that both population and location influenced their capacity to

adequately respond. One rural county official in California noted the tension between 1) living in an area prone to isolating natural events, 2) having a relatively small population spread across a vast and rugged rural landscape, and 3) federal money earmarked for disaster response distributed by population density. The outcome of this convergence of location, population and policy was that little or no government funding was available to support community preparedness precisely in locations where it was sorely needed.

Without adequate funding to support a coordinator and professional certified instructors, and with little interest expressed in the community for preparedness, a CERT seemed unlikely. The resulting challenge was to find ways to engage the area's residents, including the most vulnerable, to be more self-reliant in the face of hazard events.

In contrast, in a small Oregon river town that is tidally affected by the Pacific Ocean and exposed to frequent flooding, I was told by CERT leaders about the support given their community by Oregon's five-year plan administered through DOGAMI which focuses on the reduction of loss of life and limiting property damage. The recognition by the state government of the vulnerability of Oregon's coastal and tidally affected residents to an earthquake and tsunami helped their rural efforts to organize, but it was the devoted leadership of a city government official who had personally survived a flood that fueled its continuation.

Everyone interviewed in Oregon for this research had had a face-to-face contact with a state official who offered time, money and organizational assistance for mitigation planning and community training for hazard response. They indicated that the National Weather Service's TsunamiReady,<sup>tm</sup> TsunamiPrepared program was a good example of

successful collaboration between the federal, state and local governments to promote citizen involvement in preparedness and mitigation. Towards this effort, CERT training was facilitated through outside funding which supported temporary personnel to go to vulnerable communities along the coast and provide assistance in educating, motivating and organizing mitigation efforts.

One emergency planner suggested another challenge for emergency planning in rural areas is that the population is tending to be older due to both out-migration of young individuals and families moving to urban areas for social and economic opportunities, and in-migration of people over 65 moving to rural areas for retirement. According to the 2010 United States Census Bureau's report on the older population, growth in the number of people 65 and older has increased in the West, but is not consistently true in other rural areas (Werner, 2011). The planner's concerns were that older residents might have diminishing interest and capacity to participate in mitigation activities while having increasing needs for assistance. The results of the survey didn't support his theory, showing that 65 years and older volunteers were the second most likely age group to participate in a CERT. But, there were no data collected to indicate participation at the upper end of this age bracket to determine if and when people became unable or disinterested in participating in preparedness and response activities. Neither was it established that older rural residents impacted the first responders' ability to respond to hazard events.

## DISCUSSION

“Building relationships in quiet times creates a valuable network and sense of community to tap into in times of emergency or disaster” (Brennan & Flint, 2007).

Without regard for the type of disasters that may occur, local capacity is a major influence in determining the ability of a community to respond and recover from a disaster event (Flint & Brennan, 2006). With state and federal budgets for disaster response shrinking, volunteer organizations focused on response and community resilience are more and more critical to the well being of communities. The CERT model functions as a framework for training basic response skills to citizen volunteers, and contributes to the operational capacity of the response community, but it is not adequate as a one-time stand-alone preparedness strategy for rural or isolated areas where professional responders may be hampered from reaching victims for hours, if not days. As one CERT leader put it, “it’s a place to start.”

Operational concerns, both in general and specific to rural adaptation, emerged from the compiled data of the survey and responses from key informants. There was an agreement that citizens need to be educated about risks where they live and work, and to personally prepare for the eventuality that any of these risks may become an emergency or disaster. While the informants agreed with this premise, the basic CERT training does not place emphasis on individual preparedness beyond having the equipment designated as necessary for a CERT response, which includes a hard hat, gloves, goggles, a

flashlight and batteries, a gas turn off wrench and a face mask to cover your nose and mouth. Beyond the 20-hour basic training, mitigation and preparedness, taking actions beforehand to make the results of an emergency or disaster less severe, is not a part of the basic CERT curriculum; neither are capacity building modules for citizen participation in recovery.

A reality corroborated in hazard literature is that individuals are key to their own well-being and their community's resilience. A person can both increase their personal capacity to respond and contribute to their community's resilience in a disaster by engaging in preparedness efforts like the CERT training (Flora et al., 2003; Patterson et al., 2010). Berkes speaks of resilience as the capacity of a system (which can be a single person) to anticipate its own risks and do what is necessary so that the system is better able to cope and recover when a risk becomes a disaster (2007). This idea that education and training could help develop systemic resilience for their whole community may be a motivator for additional people to get involved, as preparing for a disaster may motivate others, and fear still others.

Primary influences attributed to motivating participation in preparedness activities, found in the literature and interviews, were heightened awareness and fear following a major disaster event, either experienced personally or seen in the media. While CERT training meets Aronson's criteria for action following being frightened with concrete, effective and doable activities (2008), the number of CERT members listed on the Citizen Corps website represents only a tiny fraction of the people who may be in harms way at any time, suggesting there are other barriers (Helsloot & Ruitenberg 2004).

Heightened awareness and fear generated by a disaster event reportedly influences some people to seek out preparedness training initially, but the motivation seems to wane as time passes. The results are supported by literature regarding people's cycles of disaster preparedness and risk mitigation. Revkin suggested the lack of on-going preparedness activities is particularly true in developed societies where disasters are rare and oral histories and knowledge are no longer passed down by elders, having been replaced by schools, television and the internet (2008). Without personal experience of a disaster, vague or intellectual sense of fear does not seem to be enough to get a lot of people involved in preparing; offering free education and training is not enough; even offering free food with free education and training is not enough to get many Americans involved in preparedness activities.

In the Fall of 2012 two communities in an area highly vulnerable to earthquakes, fire and winter storms joined forces. A private business owner received a grant to pay for six community members to receive CERT training through a university extension at a cost of \$150 each, and he pledged to personally match the funds for an addition six people to attend their CERT training. The other community, 20 minutes away over a treacherous road and sitting at the southern end of the Cascadia Subduction Zone, offered to cover tuition costs for ten of their residents to share the CERT training, paid for with money they had raised through community fundraising events. After a month of promotion in local newspapers and on radio stations combined with posters promoting the weekend-long training telling each community that their training would be free, when the University's cut-off date for enrollment arrived, only two residents had taken

advantage of the offers. The training was cancelled. Asking people to commit 20+ hours for the time needed to complete the CERT training requires more compelling motivation than “free” and personal survival.

Changing the thinking of planners and first responders to regard community members as valuable participants in disaster mitigation and response has been a slow process, and may still be a contributing factor to the community’s lack of participation. Without local governments or professional responders encouraging citizen involvement, other factors drive whether or not community members choose to make the commitment to volunteer for CERT. A convergence of efforts seems necessary.

Standardization of the basic CERT training and training materials by the Emergency Management Institute (EMI), the same hazard professionals backed by FEMA who provide professional emergency management training nationally, may contribute to both volunteer and professional participation by giving first responders and mitigation planners confidence in the skills CERTs have to offer. Through liaisons with the hazard mitigation community CERT’s integration into an area’s comprehensive response plan could also offset potential shortfalls in funding faced by agencies (Graves, 2005; Mullins, 2005). One urban CERT with robust funding from a regional budget identified as one of its strengths its ability “to provide consistent standards of training”. Another CERT leader, who also wears the hat of their city emergency manager, noted their number one strength is their Incident Command System structure. A third leader of a small city CERT noted the value of “... minimum annual training standards” and

received support from both a fire department and a mutual aid arrangement with other agencies in their area.

In two separate reports by candidates in the National Fire Academy Executive Fire Officer Program, the relationship between fire service operations and CERTs was examined. Published in August 2005 just ahead of Hurricanes Katrina and Rita, both officers, one from Tulsa, OK and the other from Eureka, Missouri concluded that in light of budget cuts to their fire services, it was valuable to re-examine their relationships with CERTs as potential affiliates. Mullins' report "CERT Integration into Disaster Response in the Eureka Fire Protection District" acknowledged that a body of enthusiastic volunteers interested and trained in disaster response was potentially a valuable resource (2005). A key factor for this collaboration to succeed was that the professional responders needed to interface with the CERT volunteers during trainings, exercises and other disaster preparedness activities, so that they would become familiar with the volunteers and be sure of their capabilities. Graves' report for Tulsa, OK recommended that their department develop procedures to utilize CERTs and engage in maintaining and expanding the CERT's response skills (2005).

The issues brought up in Mullins' and Graves' reports, for CERTs to be affiliated with professional responders, to be included in trainings, and to be valued for their skills were echoed by CERT leaders both in the survey and the interviews. In a climate of social service funding cuts, expanding the disaster response capacity of an underfunded agency by including volunteer citizen responders makes fiscal sense, helping to stretch diminishing response dollars. Further, it follows that an agency could help insure the

quality of the CERTs by taking on their training, add value to the public's perception of CERTs through their affiliation and adapt the training to reflect the risks in the area.

Fire departments were noted as the primary affiliating agency across all settlement patterns. This may be true in part because fire departments commonly have volunteers who fully function along side of paid staff. Fire chiefs who are operating with limited staffing and budgets may be more open than other first responders to seeing the value of working with community volunteers. If the chief or their staff had been instructors for part or all of the CERT training, they would already have knowledge of the skills the CERT trained volunteers had been taught, and potentially identify volunteers they would like to continue to work with. One fire fighter who was interviewed supported this theory and felt the CERTs he had developed and helped to train were extremely valuable to the fire and police departments in his area. They had recently experienced a major earthquake, providing him first hand experience in the value of the CERT-trained volunteers.

At a Fire Safe Council meeting in a rural mountain town near the coast of California the fire chief reported it was not uncommon for their fire engines to be damaged going through overgrown driveways when attempting to reach a victim. After a brief introduction to what CERT training was, he began considering that if his station developed a CERT team, it could help his small staff and save his equipment if they worked together to clear roadways. Adaptations made to expand a CERT's capacity in mitigation and response depends in part on their affiliations, and are subject to the

creativity and vision of response planners, practitioners and community members, potentially looking very different in rural areas from those in a city.

While affiliations are essential for CERTs to be included in community mitigation planning, they are not easily developed nor consistently supported. Consistent funding is considered an essential factor that helps to sustain CERTs by supporting dedicated leaders who carry the focus for maintaining on-going CERT trainings, nurturing affiliations with first responding groups and community members, and widening efforts in community education about preparedness. The most robust support found in the literature was that of the Los Angeles Fire Department that offers CERT training modules free to the community most days of the week all year long with a paid staff of trainers. Rural CERTs reported varying degrees of financial support, and relied heavily on fire departments to provide free training. One fire fighter tasked with forming a CERT said their department was underfunded and mostly staffed by unpaid volunteers, and therefore had little motivation to train CERT volunteers. Their CERT volunteers were considered just more work, having to find activities to keep them busy.

Funding and affiliations seemed not only to be helpful in supporting basic CERT trainings, but also necessary to legitimize the formation of CERTs and to carry on the momentum started in the initial training. However, how CERTs develop following the initial training is not covered in the basic training curriculum, and left up to trainers and trainees to decide. Without specific direction, trainees could choose to individually or as a team seek affiliation with a first responding entity, or simply go home and do nothing. Professional responders involved with the training could offer participants avenues to

continue to be involved. In one town, feedback from an enthusiastic CERT participant weeks following her basic CERT training said that it was a great training, but she sure wished she knew what to do next, and how to get involved. Since the training she hadn't seen or heard from any of the people with whom she had trained. The team aspect of the Community Emergency Response Team following the basic training is undefined, and sometimes even ignored by trainers, resulting in lost opportunities for developing the value and continuation the training began.

Interviews showed that the most dynamic and functional affiliations between CERTs and other community entities were lead by people who were motivated, either by living in a vulnerable area, by a desire to protect their property or they were paid staff. A dedicated leader, whether paid or a volunteer, was considered necessary to develop and maintain affiliations, to maintain their CERT as a team, and to keep up the group's interest and participation. An important reciprocal to leadership cited as necessary for the continuance of a CERT was for CERT members to take initiative in their own preparedness training, not waiting to be led to the next training opportunity. Leaders suggested a dynamic CERT had members who actively sought out opportunities for the group's participation. Examples of such opportunities were CERTs attending community events as a team helping to distribute preparedness literature, helping fire departments with food and water duties at active fires, going into schools to introduce preparedness activities to students, and going door-to-door offering preparedness literature and free installation of smoke alarms. Again, the dynamics of working as a team are championed but their development is not integral in the basic CERT training.

The last major theme identified in the results addresses the differences found between urban and rural response needs and CERTs response capacity when adopted in rural settings. This research was initiated to examine the Community Emergency Response Team training model to see how it has been adapted in small cities and rural areas, and to discover if the basic CERT training is adequate for the task of disaster response in rural landscapes. CERT's sufficiency at filling response needs in these areas when a disaster occurs is questioned in part because the CERT model was developed for response scenarios in urban neighborhoods. Urban neighborhoods are typically densely populated areas that are under the response purview of paid staffs of police, fire fighters, ambulance companies and city workers. On a regular day these professionals are usually able to readily respond to emergencies. In small cities and rural areas response is often the business of small staffs of responders wearing multiple hats, some paid, and many volunteers. Volunteer fire departments are an example, consisting of varying numbers of volunteers who are called to respond across large areas and rugged terrain (Helsloot, 2004; Brennan & Flint, 2007).

In general, in both urban and rural disasters, there are far more people and households than there are professional responders, challenging the professional responders' ability to reach everyone who may need their help. Adding to the magnitude and impact of this disparity in rural areas are the matters of access and distances between remote households and communities. If people are injured and professional responders are not available, individuals trained in basic response can be what determine whether or not people survive (Flint & Stevenson, 2010).

Response access and response time are critical considerations when judging the efficacy of adopting CERT for rural landscapes. This is particularly true in the study area. Many coastal residents are miles away from the robust response capabilities found in cities, and may live miles away from their neighbors. The types of hazards most expected (earthquakes, tsunamis, floods, fires and major storms) all have the capacity to isolate communities by damaging infrastructure, making it impossible to drive to or from critically affected areas. Local response will be the emergency response available.

The CERT training model incorporates the all-hazards foundation, the same used in disaster planning nation-wide, which consists of training skills to be used for situations that are the most likely to be encountered without regard for the type of emergency. When a major hazard event occurs along the West Coast and turns into a disaster, people can be severely injured, their property damaged and people cut off from professional emergency response. They may also face similar challenges on a normal day, such as personal injuries suffered due to equipment accidents or a house fire. CERT training includes how to put out a small fire with a fire extinguisher, how to splint injured limbs and basic first aid, ways to free people from being pinned under something, and then how, as a team, to carry them out of harms way. A CERT, whether a team or an individual, can begin life saving and property saving action immediately following a disaster's occurrence whether or not professionally trained responders arrive. But while the all-hazard skills taught in basic CERT training will address many situations that may be encountered when disasters occur in rural areas, they do not address local risks. Trainers could suggest adaptations that reflect risks in their local area, such as what to do

for people with injuries during longer wait times for professional response, or considerations when needing to personally transport injured people. Making additions to the CERT training to include response to local risks is possible, and suggests a strategy that may also enhance the desirability of being involved in a rural CERT.

If a CERT is well connected through its affiliation with professional responders, local challenges could be jointly identified ahead of time and shared through their response network. On the Oregon coast a CERT identified the need for communications when power was down. They connected with a communications professional working with police departments who provided them access to HAM radios and training. A rural river community CERT affiliated with first responders and city government mapped locations of their most vulnerable residents. They also disseminated information to residents about road closures when notified by the police. Another river community CERT was able to acquire a retired ambulance and equipped it with communications capability and emergency supplies. They were called on as adjunct responders by other responding agencies. Other collaborative strategies could be developed for outlying communities such as identifying and marking water sources for fire fighters and clearing access for emergency equipment. All of these efforts could be mitigation tasks shared between active CERTs and professional responders to the benefit of the entire community.

Access to CERT training for rural residents also warrants consideration. Because the Emergency Management Institute (EMI) dictates that the revised CERT curriculum needs to be taught by first responders and other subject-area-experts or certified trainers,

accessibility to the training may be limited for lack of qualified trainers. Another issue of access is the cost of the CERT training. In urban areas the CERT curriculum is usually funded in agency budgets or by government dollars, and offered at no cost to the volunteer. If only first responders, subject-area-experts or certified trainers are eligible to administer the CERT training, it may be necessary to hire qualified instructors. CERT training costs approximately \$150 per participant if hiring trainers, paying for their transportation, paying for a training facility, printing curriculum materials and supplying response equipment for participants. This price potentially makes the training prohibitively expensive for many who may simply ignore the training considering it inaccessible. Cost can be a significant obstacle to training enough people with CERT skills to fill the gaps in capacity to respond in rural settings. Although, as noted earlier, there are more influences that need to be identified to explain non-participation in CERT training than cost alone.

Tied intimately with questions of access to CERT training in rural areas is whether the act of participating in the CERT training, or by continuing to be a part of a CERT following the basic training, develops social capital. Social capital develops between individuals in situations where people gather, share ideas, help each other out, invest something of themselves over time and learn that they can trust each other. In its original form in Los Angeles, CERTs were developed to function within neighborhoods and encouraged to tailor themselves to the specific needs of their neighbors, responding to local emergencies and building pride and ownership in their organization (Flint & Stevenson, 2010). There is no indication in the literature that this inclusive community

idea that was promoted in the fledgling CERT model has been carried forward today. In 2006, Flint and Brennan called for CERT to get back to the basics by involving the diversity of people represented in each neighborhood, and to use CERT as a venue to instruct people in community leadership, civic engagement and conflict resolution. They also envisioned future CERT training to include opportunities as diverse as assisting land management agencies and volunteering in monitoring environmental conditions (Brennan & Flint, 2007).

Volunteers and their instructors might get acquainted with each other in the 20 hours spent together during the CERT training, but in those few hours, norms of reciprocity and trust are not likely to develop. But, if individuals choose to continue to affiliate and go beyond the basic CERT training with a focus on building a disaster response team or community, that group process can develop bonding social capital, assets that could be drawn on in disasters. Interactions before a hazard event occurs also provide opportunities to build trust and knowledge in a community that have the potential of contributing to its resilience, its capacity to thrive in conditions of unpredictable change (Magis, 2007).

Described by both planners and CERT leaders, social capital is developed when someone takes the lead in developing CERT training opportunities that include CERTs and professional responders. In one rural community a private donor thought it was so important to have his community disaster-prepared that he funded an eighteen-month position for a CERT coordinator to initiate community involvement. The coordinator had recently retired from the sheriff's department, and engendered interest and trust in CERT

because of his personality and his reputation as a good police officer. He was empowering and inclusive, seeking out teens and non-English speaking populations in his area to receive the CERT training. Bridging social capital began to develop between the professional responders and the new CERTs, built on the coordinator's existing network of reciprocity throughout the region and the diversity of the CERT volunteers.

Another example of a CERT successfully bridging with professional mitigation planners was seen in a coastal area susceptible to harrowing storms and the threat of a major Cascadia Subduction Zone event. Here retirees took on disaster preparedness like second careers. Two members in the community were professionally involved in response communications and had pre-existing relationships with first responders that enabled them to effectively affiliate their CERT with state and county agencies. They developed with other retired professionals a 501(c)(3) disaster response organization that could accept funding and integrated CERT into their efforts. The community members enthusiastically proselytized the importance of mitigation planning to improve response capacity, and engaged police, fire fighters and medical professionals as trainers as well as residents who were not active participants in town-wide drills.

The "team" in Community Emergency Response Team needs to be nurtured along with affiliations throughout the community, incorporated into day-to-day activities so that social capital develops, creating what one county's officer of emergency services referred to as a "force multiplier", increasing the capacity of professional responders, the CERT, and the individuals participating in the CERT. CERTs reported participating in a wide variety of non-emergency activities such as helping out at an H1N1 vaccination event,

directing traffic at county fairs and parades, providing a first aid booth at an air show, sharing preparedness literature at public events and going into classrooms to give presentations. Each of these opportunities is built on relationships, building social capital while adding to the resilience of the community.

The findings in this study raise new questions regarding what adaptations within CERT's existing framework would enhance the model's meaningful adoption in rural areas. This research indicates the capacity of the CERT training model can be expanded. CERT provides a framework for people to come together who share similar interests in disaster response, and gives responding agencies a pool of engaged and willing volunteers. Through their knowledge of place, residents can help planners and professional responders identify local risks and participate in developing mitigation strategies, potentially limiting impacts of eventual disasters. Enhancing the structure of CERT is desirable and necessary for the CERT model's meaningful adoption in rural areas.

## CONCLUSION

This research provides an examination of the CERT training model when adopted in areas with sparse and widely spread rural populations. I found benefits and challenges to developing community disaster strategies in the coastal areas of California and Oregon, and argue that the CERT model's effectiveness is limited by its narrow focus. In the basic CERT curriculum, individual responsibility for mitigation and preparedness is overshadowed by the emphasis on response. The response training builds on the expectation that professional responders will arrive and take over, which is not necessarily the case in rural settings.

Similarly overshadowed is the importance of developing teams. One author who is often cited regarding the history of CERTs called the CERT model the "Community Emergency Response Training", leaving "team" out entirely (Simpson, 2001). The "team" in CERT training is under-emphasized. Building the team has the potential to strengthen the training and development of social capital between like-minded people who have common concerns regarding risks and vulnerabilities. Bonding social capital can develop over time through a group's interactions as a team that can contribute to its staying power. Strong CERT teams could enhance their community's resilience and reduce vulnerability. Including strategies to connect citizen volunteers with local, state and federal response agencies and other community response efforts can expand the basic capacity of CERT. Through these connections CERT members can build valuable bridging social capital while engaging in mitigation and preparedness planning and

exercises. They can also be involved with mitigation and recovery planning to maintain local control following a disaster event.

The Community Emergency Response Team Model was conceived as a framework in which to train citizen volunteers to serve basic, potentially life-saving first response roles in the time between the occurrences of a disaster and when professional responders arrive on site. However, what happens between the completion of the CERT training and before a disaster event occurs is left largely to individual initiative, and is rich ground for research. In the time between basic CERT training and a disaster, CERT teams could continue to develop their capacity to respond. They could also participate in planning how their area will recover, and mitigate the impact of disasters through mobilizing their communities' assets to eliminate unnecessary risks.

Another goal of additional research would be to discover real-life solutions to the challenges of inclusion. Popular media promotes success stories of recovery that often include new developments and glossy re-built downtowns, blurring the challenges faced by underrepresented people and people without training in civic processes. These community members are often marginalized during preparations and mitigation, as well as in response and recovery (Tootle, 2007). Tootle reported on loss of both material and social resources experienced by marginalized rural residents because of "high levels of spatial dislocation in coastal parishes" following Hurricane Rita. She observed this resulted in valuable local knowledge being lost, inhibiting the ability to plan and rebuild in ways that accurately reflected the local and social landscape (2007). A suggestion for new research is the development of simple steps CERTs could use to discover who the

people are that make up their community and map their assets to discover what they have to contribute and how to integrate everyone into disaster and hazard mitigation planning. Beyond planning for a comprehensive rescue, broader community involvement in planning would build capital and a community's capacity. Participatory Action Research would be well suited for this type of discovery research.

Additional future research could culminate in the creation of a guide useful to CERT volunteers and trainers to further their collaborative training. The guide could develop modules to strengthen community affiliations, including ways to integrate children, teens and seniors as active participants. This could include a survey by CERT participants of preparedness materials that are available for seniors and children with a goal of bringing together the best of what has gone before and integrate them into multiple age education and training materials taught by the participants.

Another valuable ground for research in California would be to explore the potential of collaborations between CERTs and Fire Safe Councils (Simpson, 2001). Both organizations have volunteers working to protect their communities; both adapt to local risks and are often faced with similar challenges (Everett & Fuller, 2010). The two frameworks have the potential to enhance each other's efforts. The Fire Safe Council (FSC) website has a guide which includes information regarding how to form and administer a FSC, how to conduct fundraising, write grants and gain non-profit status. FSCs also have access to regional meetings where workshops and peer trainings are conducted, actively sharing successes and challenges. Opportunities like the FSCs regional meetings and workshops are not formalized for CERTs, but collaborations

between CERTs were suggested both in survey responses and interviews. What enhanced capacity could be developed through collaborations between rural CERTs and FSC's would be worthy of inquiry.

In rural coastal areas citizen engagement in hazard preparedness activities is important. The same basic CERT training taught in urban areas can successfully be adapted in rural communities and expanded to address local risks. Standardization of the response training is valuable, but needs to be expandable to include developing strategies for rural CERTs to be able to respond for extended periods of isolation that can be expected in rural areas. Dedicated commitment to training and developing response capacity can be maintained and built upon through creative efforts of citizens, professional responders, planners, and other citizen groups interested in building resilient communities that are able to prepare for, respond and recover from a disaster, and thrive.

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## APPENDIX A

### Survey Questions

Community Emergency Response Team Organization Survey

Yvonne Everett & Judy Sears

1. Name of your emergency response organization:
2. Organization's mailing address:
3. Organization's e-mail address:
4. Organization's phone number:
5. Name of contact person who is completing this survey:
6. Contact person's mailing address (if different):
7. Contact e-mail address:
8. Contact phone #:
9. Please describe your geographic area: (Circle one)
  - a. Urban-Metropolitan (Population of 50,000 or more)
  - b. Urban-Not Metropolitan (cities and towns with populations between 25,000-50,000)
  - c. Suburban / edge of urban (A residential area surrounding an urban area)
  - d. Small towns (communities with populations less than 25,000, NOT adjacent to urban areas)
  - e. Rural (very small communities and countryside)
10. What is the population of your response area?
11. Roughly how large is your area?
12. \_\_\_\_\_ acres or \_\_\_\_\_ square miles

13. How old is your local CERT organization? \_\_\_\_\_ years
14. How many members belong to your organization?
15. How many of your members regularly participate in your organization's meetings and events?
16. How many of your members can you count on to respond in an emergency?
17. How many of your members are:
  - a. Under 18 years of age
  - b. 19-30 years of age
  - c. 31-65 years of age
  - d. >65 years of age
18. How many of your members are men?
19. How many are women?
20. How many of your members work in or are retired from jobs in emergency response?
21. Is the 9-part CERT training available in your area? (The 9-part CERT training includes disaster preparedness, disaster fire safety, disaster medical operations part 1–2, light search and rescue, team organization, disaster psychology, terrorism, course review and disaster simulation.) Y / N
22. If CERT training is not available in your area, how long does it take you to drive (one way) to the nearest training center?
  23. Less than one \_\_\_\_\_
  24. 1-3 hours \_\_\_\_\_
  25. More than 3 hours \_\_\_\_\_
26. How many of your members have completed the nine-part CERT training?
27. How many of your members keep their CERT certification current?
28. Are you incorporated as a 501(c)(3) non-profit organization?

29. Are you affiliated with an umbrella support organization (fire department, police)?
30. Please explain:
31. What are the annual expenses for your CERT?
32. Where does your funding come from?
33. How often do you meet? (Please circle one answer)
34. More than once per month?
35. Monthly?
36. Quarterly?
37. Annually?
38. Other?
39. How often do you train?
40. More than once per month?
41. Monthly?
42. Quarterly?
43. Annually?
44. Other?
45. Has your group responded to an emergency event? Y / N
46. Was this/ were these large events (affecting multiple households and/or a large area)? Y / N
47. Were there smaller events (affecting individuals)? Y / N
48. Has it been difficult to keep people involved in your CERT organization over time? Y / N
49. What emergency response professionals do you primarily interact with in your area?
50. City police/sheriff's department
51. Fire department/Volunteer Fire Department

52. Office of Emergency Services
53. Ambulance service/hospital
54. Other \_\_\_\_\_
55. Are there other local organizations in your local area besides your CERT organization that are preparing for disasters? Y/N
56. If yes, please explain?
57. Have you experienced CERT members developing connections through their emergency response team relationships that have resulted in collaboration in other community projects? Y/N
58. If yes, please describe:
59. Does your CERT get involved in other types of community activities beyond emergency response? Y / N
60. If yes, please describe:
61. What do you feel are your organization's strengths?
62. What do you feel are your organization's weaknesses?
63. Do you have any advice or thoughts to share regarding emergency response organizations in general, or yours in particular? Y / N
64. If yes, please write your responses here:
65. Would you like to receive a copy of the results of this survey? Y / N

Thank you very much for participating in this assessment of your CERT organization. The work you are doing is vitally important in developing much needed training and coordination for community participation when hazard events occur. By being involved in this survey you will be significantly contributing in our work towards developing hazard response organizations and training in other communities.

**APPENDIX B**

## Survey Introductory Letter



Dr. Yvonne Everett, Professor of Environmental Planning  
Department of Environmental Science and Management  
and  
Judith Sears, Environment and Community Graduate Program

1 Harpst St, Arcata, CA 95521  
[Everett@humboldt.edu](mailto:Everett@humboldt.edu)  
(707) 826-4188

October XX 2010

Dear

You are receiving this letter and the accompanying survey because you are listed as the contact person on the Citizen Corp website ([www.citizencorps.gov/cert/about.shtm](http://www.citizencorps.gov/cert/about.shtm)) as of August 31, 2010, designating your organization as a currently working CERT in your community.

We are working with emergency responders in our community to identify successful examples of local citizen response efforts and what sustains them over time. Our coastal community is small and relatively isolated and subject to severe winter storms, earthquakes and tsunamis. Humboldt State University has a CERT, but the rest of the community does not. When we set out to find out more about CERT in the Pacific Coast region, we found three things: 1) There are a number of communities with active CERT; 2) There are no studies of them; 3) The majority of communities do not have CERT.

We are now writing to members of active CERT in California, Oregon and Washington, to learn more about active CERT teams and what might help teams in other communities to form and remain active. We plan to share the results of our research with our own and other interested communities.

We would very much appreciate it if you would spend approximately 30 minutes of your time to respond to the on-line survey that accompanies this letter. We realize that some of this information may be sensitive and your response information will be kept confidential. You and your CERT will not be identifiable in any publications emerging from this research. The data gathered in this survey will be destroyed after three years. Please do not complete the survey if you are not yet 18 years old.

Thank you very much for your time and thoughtful consideration. If you are interested in receiving a copy of the resulting report from this survey, please check the box at the end of the survey. If you have any questions regarding this research, please contact me at the address noted above or contact Dr. Chris Hopper, Associate Dean of Professional Studies at (707) 826-3853.

Respectfully,

Yvonne Everett

Judith Sears

## APPENDIX C

Sample of questions for interviewing CERT leaders

Questions for CERT interviews Spring 2011  
RE: CERT Leaders

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Judy Sears, Graduate Researcher

Humboldt State University, Arcata, CA [jss7@humboldt.edu](mailto:jss7@humboldt.edu) 707/362-1570

### DISASTER RESPONSE PLANS & AFFILIATIONS

1. Is your CERT sponsored, or under the jurisdiction of another group? If yes, who? Please describe this relationship.
2. How is your CERT affiliated with your area disaster professionals?
3. Do other volunteer or professional emergency responders recognize your CERT training? Will/do they call on you?
4. Do the professional responders know what the CERT strengths are, and how they can be used before, during and after hazard situations?
5. What are your CERTs main responsibilities in a disaster scenario?
6. Does your CERT have plans for on-going participation with the community in the days *following* a disaster?
  - a. Does your CERT have plans if a major disaster isolates your community for longer than 72 hours?
  - b. What is your CERT's plan if there is an evacuation ordered?
7. As a CERT, have you worked/trained directly with the Incident Command System (ICS) in your area?
  - a. Who is your connection to the Incident Command System in your area?
  - b. If you have worked with the ICS what have you learned in this interface?
  - c. What are the challenges faced in this interface with ICS unique to your rural setting?

### **ADAPTATIONS**

8. CERT was developed in Los Angeles for residents of neighborhoods with the understanding that the primary job of team members was to do what you could to save lives and property *until first responders arrived*. Recognizing that the CERT model of training volunteer disaster responders is flexible to adaptation for different settings:
9. Do you feel that the CERT model is adequate for use in rural or small town settings where the team may not simply act as the first responders, but if cut off, may be the only responders for their neighbors?
10. What special adaptations have you made to your CERT because you are in a rural / small town area?
11. Do you see gaps in the CERT model as a way of organizing people in rural areas/small towns to respond to hazard events? If so, what are these gaps?
12. What ideas do you have to improve the CERT model in small towns / rural areas?
13. How have you determined your CERT response area?

### **RETENTION & COMMUNITY INVOLVEMENT**

14. Once trained, how do you maintain CERT-trained volunteers as a cohesive, informed disaster response TEAM on an on-going basis?
15. Are there ways that you have experienced, or thought of, that your CERT could routinely participate in your community *to strengthen trust and ties* when there is no disaster, for the eventuality of disaster situations? (Between team members, and between the CERT and the greater community?)
16. Have you experienced community members developing relationships through their CERT association that has resulted in collaboration in other community projects? If so, please give examples.

### **RECRUITMENT**

17. What strategies have you found to be successful to increase the public perception of CERT and to attract volunteers to CERT training?
18. What ideas do you have, or have you used, to successfully get your community active and involved in their own preparedness?
19. Do you think fear is a useful motivator to get people involved in being trained?

### **SCOPE OF CERT ACTIVITIES**

20. What do you see as the SCOPE of your Community Emergency Response Team?
  - a. Strictly educational?
  - b. Work with youth?
  - c. Team development?
  - d. Participation in community activities?
  - e. Participation with first responders?
  - f. Participation in community hazard mitigation planning?
  - g. Hazard assessment?
  - h. Seeking out at-risk people to include in your response?
21. In what ways has your CERT expanded its purpose beyond providing disaster training and responding in emergencies? Do you see it within the scope of your CERT activities:
  - a. Assisting neighborhoods to develop disaster kits?
  - b. Teaching what 7-10 days of food looks like, how to store it and how to prepare it?
  - c. Developing household evacuation plans?
  - d. Going into schools to present hazard preparation?

### **OUTREACH**

22. Some survey respondents said they feel they are not attracting some groups of people in their communities to get the CERT training, such as non-English speaking groups, elderly, special needs people, rural isolates and youths.
23. Are there groups who you are not reaching?

24. What methods have you found to be the most successful to reach out to these harder-to-reach groups?
25. How does your CERT account for everyone in your area?

### **LEADERSHIP**

26. Many survey respondents have said they feel strong leadership is essential to maintaining their CERTs. Let's talk about what kind of leadership and what role leaders need to play in making up a strong CERT.

### **ANYTHING ELSE YOU WOULD LIKE TO SHARE?**

## APPENDIX D

### Sample of Questions for Interviewing Disaster Response Officials

Questions for CERT interviews Spring 2011

**RE: Disaster Planning Professionals in Humboldt County**

Judy Sears, Graduate Researcher

Humboldt State University, Arcata, CA [jss7@humboldt.edu](mailto:jss7@humboldt.edu) 707/362-1570

I have contacted you for an interview regarding my research on the CERT model of disaster preparedness and hazard mitigation because you are an emergency planning professional in Humboldt County, working towards making Humboldt County hazard ready. Although you are not directing a CERT to my knowledge, your experience in hazard research and preparation provides a unique perspective on what is needed in our communities to keep the most people safe through what ever type of hazard that may occur in our area.

The following questions are “jumping off places” for our conversation. I am most interested in you sharing what has worked, what is working and what needs to be done. The goal of my thesis, examining the CERT model’s adaptations in rural communities, is to facilitate a robust engagement of Humboldt County residents to learn to be prepared, and to take action on their own, and their neighbor’s behalf.

Thank you very much for your time.

1. Have you worked with CERTs (Community Emergency Response Teams)? If yes, please tell me in what capacity, and a bit about your impressions of that experience.
2. Do you feel that the CERT model is applicable and adequate as a community disaster training and response program in the case of an emergency or disaster? Please address the unique challenges that exist in our rural areas.
3. For what duration do you feel our communities realistically need to be prepared to be self-sufficient in the case of a disaster?
4. What groups/individuals should disaster preparedness efforts be focusing on?
5. What do you feel is most needed to prepare our communities adequately?
6. Do you feel we are close to being prepared? Part way there? Not close to being prepared?
7. What are the barriers that you see in adequately preparing our north coast communities for disasters?
8. What advantages do you see that we have in our communities regarding disaster preparedness?
9. What would you like to see happening in disaster preparedness in our area that is not yet being done, not adequately funded, without leadership, etc?
10. What other thoughts would you like to share?

## APPENDIX E

Sample of Questions for Disaster Planning Professionals: Non-CERT Affiliates

Questions for CERT interviews Spring 2011

### **RE: Disaster Planning Professionals in Humboldt County**

#### **Non-CERT Affiliates**

Judy Sears, Graduate Researcher

Humboldt State University, Arcata, CA [jss7@humboldt.edu](mailto:jss7@humboldt.edu) 707/362-1570

I have contacted you for an interview regarding my research on the CERT model of disaster preparedness and hazard mitigation because you are an emergency planning professional in Humboldt County, working towards making Humboldt County hazard ready. Although you are not directing a CERT to my knowledge, your experience in hazard research and preparation provides a unique perspective on what is needed in our communities to keep the most people safe through what ever type of hazard that may occur in our area.

The following questions are “jumping off places” for our conversation. I am most interested in you sharing what has worked, what is working and what needs to be done. The goal of my thesis, examining the CERT model’s adaptations in rural communities, is to facilitate a robust engagement of Humboldt County residents to learn to be prepared, and to take action on their own, and their neighbor’s behalf.

Thank you so very much for your time and thoughtful responses. If you are interested to see results of this research, please let me know.

1. Have you worked with CERTs (Community Emergency Response Teams)? If yes, please tell me in what capacity, and a bit about your impressions of that experience.
2. Do you feel that the CERT model is applicable and adequate as a community disaster training and response program in your area in case of an emergency or disaster? Please address the unique challenges that exist in your rural area.
3. What are the main responsibilities of your CERT in disaster situations? If you are NOT using the CERT model to train and prepare for disasters, will you please describe planning and training that has been done in your area to prepare the community for disasters.
4. For what duration do you feel your community realistically needs to be prepared to be self-sufficient in the case of a disaster?
5. What sort of arrangement do you have with first responders in your area to address disaster scenarios? Fire? Flood? Earthquakes? Others?
6. Disaster scenarios in our area suggest that rural areas may be cut off from outside response possibly for 1-2 weeks. Does your community have plans for response and recovery in the case of such a disaster? If yes, please describe.
7. In the case of a disaster, what communication network do you feel you will be able to rely on?
8. If your community is preparing collectively for eventual disasters, how do you maintain on-going participation in training and education to keep people functioning as a team and strengthen trust and ties?
9. What do you feel is most needed to prepare your community adequately for disasters?
  - a. Do you feel you are close to being prepared? Part way there? Not close to being prepared?
10. What do you see are barriers to adequately prepare your community for disasters?

11. What advantages do you see that you have in your community regarding disaster preparedness?
12. What ideas do you have, or have you used, to successfully get your community active and involved in their own preparedness?
13. Do you think fear is a useful motivator to get people involved in being trained? Please elaborate.
14. What would you like to see happening in disaster preparedness in your area that is not yet being done, not adequately funded, without leadership, etc?
15. If you have any other thoughts you would like to share, please use the space below.