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Collaborative Frameworks in Nonprofit Emergency Response: Examining Earthquake
Preparedness and Response in the San Francisco Bay Area

by

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Abstract

Collaboration is critically important to the nonprofit sector. Whether these efforts involves other nonprofit organizations, governmental agencies or businesses, collaboration enhances nonprofits' missions, goals and increase service delivery to their constituents. These activities are especially pertinent with regards to emergency preparedness and response. This capstone utilizes research and qualitative data, including expert interviews, to analyze the nature of collaborative response between nonprofits, governmental and community organizations, with an emphasis on disaster planning and response in the San Francisco Bay Area. Large-scale disasters, such as earthquakes, affect entire regions and thus require significant response from many actors. This analysis yields recommendations that can be implemented to facilitate and improve collaboration between nonprofits and other organizations with regards to the San Francisco Bay Area's disaster planning and response.

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Introduction

Collaboration is vital to the overall function and success of the nonprofit sector, regardless of an organization's specific mission or services. Nonprofits must continually develop and maintain partnerships with other organizations, government agencies, businesses, donors and clients to operate and sustain services - no organization exists in a vacuum. This need for collaboration is especially pertinent with regards to emergency planning, preparedness and response, as it underscores the diversity of the nonprofit sector's services, while highlighting the vital need to collaborate and work effectively in unfavorable and highly stressful conditions. Before examining specific actions, it is necessary to study the nature of collaboration between nonprofits and other actors in disaster response.

Literature Review

The Nature of Collaboration

Collaboration is an essential piece both of emergency preparedness and response, a necessary facet of planning as well as service delivery in crisis. The concept of "disaster relief" itself can be broken down into phases as described by Day (2013), "preparation, response and recovery activities" which in turn necessitate coordination of resources, staffing and services between nonprofits, governmental organizations and volunteers (p. 1972). Internationally, nongovernmental organizations (NGOs) collaborate with intergovernmental organizations (IGOs) and governments to assist in emergency response and recovery efforts. The United Nations Office for the Coordination of Humanitarian Affairs' (OCHA) mission is focused on collaboration and coordination between "humanitarian actors" in crisis, serving to consolidate efforts and direct services ("Who We Are," n.d.). The Inter-Agency Standing Committee (IASC)

also serves to coordinate efforts in tandem with UNOCHA, combining the various initiatives and departments at the UN with major NGO actors, such as the Red Cross, to initiate and manage relief efforts under an Emergency Relief Coordinator (“IASC Membership,” n.d.). These efforts underscore the need for advance preparation in emergencies, particularly in widespread disasters that bring together a diverse array of organizations. In the aftermath of the 2010 earthquake in Haiti, UNOCHA served to coordinate many operations on the ground, ranging from rescue efforts to “civil-military coordination and logistics” (Margesson and Taft-Morales, 2010, p. 8). NGOs also assisted with relief efforts - the Congressional Research Service estimated that over 500 NGOs assisted with the response, with government agencies such as the U.S. Agency for International Development also providing support and funds (Margesson and Taft-Morales, 2010, p. 11). The immense scale required to operate services with many governments, NGOs and IGOs thus underscores the need for large-scale collaboratory efforts.

In the United States, the Voluntary Organizations Active in Disaster (VOAD) is an example of organized, systematic cross-coordination between groups, functioning as a means to enhance preparedness efforts and response. VOADs themselves exist on national, state and local levels, describing their work as a “forum for sharing knowledge and coordinating resources” while developing partnerships between actors to support effective disaster response (“History,” 2014). VOADs act as frameworks to connect larger nonprofits with a disaster-response orientation with smaller nonprofits and community groups, but as noted by Flatt and Stys (2012), the VOAD itself does not act as a responder - it is the organizations that make up the VOAD that act in emergency, utilizing the VOAD framework to foster collaboration (p. 356). As depicted by Sylves (2008), the VOAD framework also provides an opportunity for organizations to “bond” and develop more meaningful partnerships and levels of trust that may prove vital in disaster (p. 79). VOADs provide a means to formalize existing partnerships,

incorporate new members and empower organizations to actively plan for disaster, even if their day-to-day operations may not focus on disaster response.

VOADs serve to bring together nonprofits and other community organizations, such as churches, in disasters and provides the means to adopt partnerships and develop disaster plans. Government entities and local authorities, such as fire departments, adopt more comprehensive and hierarchical structures to ensure an unambiguous chain of command following disaster. The state of California has adopted a comprehensive Standardized Emergency Management System, which mandates both the usage of an evolving Incident Command System framework and “multi-agency or inter-agency coordination” to ensure a single system can be employed to draw together disparate actors (“Foundation for the Standardized Emergency Management System,” 2010, p. 7). This framework has evolved and emerged out of necessity, as large-scale disasters such as earthquakes and wildfires cross jurisdictions, requiring many groups to work together and necessitating a hierarchical framework that is clearly defined and rapidly utilized in disaster. The Incident Command System operates under a principle of “unity of command,” ensuring that everyone reports to a single person - thus minimizing the potential for confusing or conflicting instructions (“Foundation for the Standardized Emergency Management System,” 2010, p. 8). This framework does not preclude spontaneous collaborative efforts - it is specifically described as able to “expand and contract efficiently” - but ensures that critical decisions and activities are funneled through a cohesive network for unified response (“Foundation for the Standardized Emergency Management System,” 2010, p. 9).

Collaboration and the Nonprofit Sector

Collaborative planning and emergency preparedness efforts have ramifications beyond large-scale emergencies, as this requires higher levels of management, relationship development and strategic thinking within the sector that can serve nonprofit leaders and managers well across the sector. Eller, Gerber and Branch (2015) examine the perceived value of coordination and collaboration, employing surveys conducted following Superstorm Sandy to gauge nonprofit emergency response as well as collaborations and long-term recovery efforts (p. 224). Crucially, they identify nonprofit activities as supplementary to “emergency first response operations,” characterizing nonprofits as support systems that provide activities in addition to governmental response (Eller et al., 2015, p. 226). However, the authors also recognize the scale of nonprofit services provided in a disaster response, ranging from short-term emergency assistance to long-term recovery efforts, terming the scope a “comprehensive degree of mass care provision” (Eller et al., 2015, p. 229). The sheer breadth of nonprofit services highlights both the complexity of coordination and collaboration as well as the potential societal and organizational benefits to formalized partnerships and support networks, as it would prove immensely challenging for a nonprofit to provide services without a greater understanding of the role played by other organizations or government agencies, risking unnecessary duplication of efforts or wasted resources.

Sutton and Tierney (2006) identify two separate facets of disaster preparedness: dimensions, the “various goals or end-state” of preparedness planning and “concrete actions” taken (p. 6). This provides the means to identify the steps necessary to foment a comprehensive preparedness plan and include a number of specific actions that would be relevant to the nonprofit sector’s role - for example, the sharing of information or creation of

support networks to activate in an emergency (Sutton and Tierney, 2006, p. 8). When nonprofits are thus able to identify their roles and place themselves within a larger emergency response framework, they are able to effectively identify commonalities between areas of need and their specific knowledges or training. Significantly, Eller, Gerber and Branch (2015) find that nonprofits that exhibit a “stronger local orientation on their work relationships” are likelier to participate in both short- and long-term recovery efforts, thus underscoring the need for diverse networks of partnerships and the necessity of engaging local nonprofit organizations in disaster planning and preparation (p. 236). Sutton and Tierney (2006) further explore this concept by highlighting the “formal and informal arrangements” necessary to foster these networks (p. 9). By simultaneously building collaborative relationships, participating in VOADs and creating formalized emergency planning procedures, nonprofits may more easily understand their role in a disaster and thus be prepared to effectively respond.

Collaboration and Ad Hoc Networks

In disasters, nonprofits and other actors must work in difficult conditions without reliable access to communication or up-to-date information, while assessing and addressing the most urgent areas of need. Within the concepts of coordination and collaboration, it is imperative to examine the precise nature of these plans and frameworks when implemented in an emergency. Drabek and McEntire (2002) examine cooperation and collaboration within the framework of “emergence,” characterized as “process through which organizational personnel dedicate and structure themselves as they seek to resolve the demands placed on their community in times of disaster” (p. 198). As discussed by Drabek and McEntire (2002), the centralized, hierarchical model derived from the “civil defense origins of emergency management,” contrasted with an adaptive, more ad hoc example that arises in response to a

specific situation (pp. 203-205). Within this framework, they highlight the difficulties of planning and management between groups in crisis, which further underscores the need to begin collaborative efforts long before disaster strikes, thus avoiding the dual challenges of building response networks on the fly and managing new partnerships under chaotic or confusing conditions. Nolte and Boenigk (2013) further examine the “ad-hoc” realities of collaboration in disasters, as disaster necessitates rapid response and thus requires an adaptive response framework (p. 154). As noted by Nolte and Boenigk (2013), if these organizations begin to cross-coordinate, they both familiarize themselves with the operations of other nonprofits (and thus their abilities to fill gaps in service) as well as developing a level of “openness” and trust that could in turn lend itself to more effective and efficient use of resources (pp. 162-163).

Drabek and McEntire (2002) provide suggestions to mitigate some of the challenges of coordination, including “preparedness measures,” both as a means of developing disaster response plans and as a way for nonprofits to familiarize their staff and other organizations with their services and management, essentially arming themselves with knowledge ahead of a potential emergency (p. 208). They also highlight the importance of Emergency Operations Centers (EOC) in coordinated response, as these centers serve to “facilitate the collection and dissemination necessary for task execution” (p. 209). These can be seen as a more localized version of the efforts of UNOCHA or the IASC, drawing together multiple actors to eliminate logistical confusion and keep focus on service delivery. The need for adaptability and flexibility is borne out in real-world scenarios. For example, while NVOAD and VOADs function as models of collaboration, the authority and responsibility in emergencies is dispersed among its members and their staff on the ground. Major disasters may also necessitate vast response. After Superstorm Sandy, an estimated 180 organizations responded to the disaster (Eller, Gerber and Branch, 2015, p. 227). A rigid, uncompromising chain of command would have

great difficulty in a chaotic environment with the sheer scale of actors, resources and coordination required. Collaborative efforts should be viewed as a means for nonprofits to effectively deliver their own services with the knowledge that their efforts are part of a wider framework serving to support multiple facets of the community - for example, food banks providing meals while faith-based organizations coordinate volunteers or donations.

However, Eisner (2010) notes the vulnerability of nonprofits in disasters as they face unprecedented strains on services, staff and resources and are “disaster victims” themselves, balancing the need to support emergency response as well as existing services (p. 503). This highlights the critical need for coordination and collaboration of services, as populations rely on nonprofit organizations and these demands would not cease in an emergency and may grow much more acute, as with mental health or medical services. Eisner (2010) argues this can be mitigated by planning and cooperation between groups. In incorporating a range of nonprofits in emergency planning - not just those with a disaster response mission, such as the Red Cross - organizations can serve to eliminate some of this risk and may also yield greater insights into the needs that may emerge following a large-scale emergency.

Nonprofits must foster collaborations and develop a capacity for effective response, while simultaneously maintaining day-to-day services and strategic planning for emergencies that may or may not occur. Norris, Stevens, Pfefferbaum, Wyche and Pfefferbaum (2007) emphasize the need for partnerships, as “pre-existing organizational networks and relationships are the key to rapidly mobilizing emergency and ongoing support services for disaster survivors” (p. 143). This theme is echoed across the literature, as nonprofits and other actors must have familiarity with each other’s services and capacities to best understand how to collaborate and implement strategies. In turn, success hinges on this knowledge and base level of confidence and trust in each other partners, but this task is rendered difficult, if not impossible, if

organizations fail to communicate and connect before crisis. Sutton and Tierney (2006) further categorize disaster preparedness and response as forms of “mitigation” that encompass a number of differing actions and activities, thus providing a means of managing disasters or preventing certain outcomes (pp. 4-5). In the San Francisco Bay Area, a form of mitigation might be efforts to convince residents and businesses to retrofit buildings, thus minimizing structural damage in an earthquake. In Sutton and Tierney’s view, the development of collaborative frameworks would fall under “process mitigation,” as organizations proactively identified means of building relationships before an emergency (2006, p. 5). While many groups may be seen as “large-scale” responders, such as FEMA, nonprofits provide a “stronger local-level orientation” that allows for deeper partnerships and continuous support as communities begin recovery efforts (Eller, Gerber and Branch, 2015, p. 236).

Collaboration and Resilience

As a result of the challenges in emergency response for nonprofit organizations, developing resilience is vital for program and mission success. Resilience itself can be seen as a larger *outcome* as a result of various *outputs*, such as disaster drills or planning meetings. Eisner (2010) states that resilience for nonprofits in disaster “does not suggest the resumption of all pre-disaster operations, but rather the restoration of the ability to deliver a limited set of critical services to an organization’s clients, within a defined time frame” (p. 504). Nonprofits face myriad strategic and programmatic challenges even in ideal circumstances, managing available resources and addressing the most pressing community needs while planning for long-term growth and sustainability. These issues are compounded in disaster zones, as noted by Flatt and Stys (2010), when nonprofits simultaneously “face two realities: the needs of existing clients become more acute while at the same time new clients arrive seeking service”

(p. 351). For example, a food bank might be accustomed to serving a certain amount of clients on a given day, only to experience a major surge in demand from those in need at the same time access to resources and staff are reduced or greatly strained. Additionally, nonprofits may lack the time or resources to draft emergency plans for their constituents and staff and may be hampered both by limited capacity to plan and the ability or willingness to facilitate collaborative relationships with other nonprofits or organizations focused on disaster response (Flatt and Stys, 2010, p. 352). Although resilience itself may seem nebulous, it is closely tied to adaptability and flexibility - in essence, the ability for nonprofits to manage rapid change under immense stress. Day (2013) views this process as natural, as “collective resilience emerges in a nonlinear and dynamic fashion from the evolving behaviours of interacting entities within a changing environmental context” (p. 1984). Pena, Zahran, Underwood and Weiler (2014) also note that nonprofits themselves act as a mirror for the larger community, a “unique test of local social capital resilience and response” (p. 594). As they represent the needs of the larger community, the strengths of their preparedness and response efforts can underscore the community’s ability to manage and respond in crisis. Rather than adhering to a specific plan, fostering this flexibility and resilience may arise in myriad ways. For example, engaging a wide spectrum of organizations and resources in planning encourages diversity and adaptability, as Norris, Stevens, Pfefferbaum, Wyche and Pfefferbaum (2007) caution that those nonprofits that remain “dependent on a narrow range of resources are less able to cope with change that involves the depletion of that resource” (p. 134). Resilience can also be fostered directly through specific activities - for example, the San Francisco Foundation created a “Disaster Resilience” grant program to provide organizations with the financial means to “recover operations and support their clients and communities” (“Disaster Resilience,” n.d.).

Although not all nonprofits may view themselves as “emergency responders,” many organizations will contribute to different facets of disaster planning, immediate response or long-term recovery, as they are capable of providing necessary services to their constituents. Other organizations will also provide some form of support to their constituents in the longer term, such as mental health-focused organizations that may receive an increased need for counseling or therapy following a traumatic event. The nonprofit sector will be involved in every aspect of disaster planning, response and recovery and their role as the United States’ “fourth sector” will serve to supplement governmental responses and provide needed services until the region has recovered from the disaster.

Emergency Planning, Preparedness and Response in the San Francisco Bay Area

The San Francisco Bay Area is a geographic region spanning nine counties and is home to over seven million people (“Nine Bay Area Counties,” 2017). The region is situated around the San Francisco Bay and is home to a number of industries in Silicon Valley, San Francisco and Oakland, as well as a significant agricultural industry in the nearby Sonoma and Napa counties. An immense infrastructure is required to support the densely populated region, ranging from bridges spanning the San Francisco Bay, trains (Caltrain, Capital Corridor), a subway system (Bay Area Rapid Transit) and three major cities with international airports - San Francisco International, Norman Mineta San Jose International and Oakland International. The population of the region also shifts dramatically during the day as residents commute to San Francisco, Oakland or the South Bay - by one estimate, 38% of the workers in downtown San Francisco commute to work each day across bridges and on Bay Area Rapid Transit from the East Bay, while only 42% actually reside in the city (“Safe Enough to Stay,” 2012). The San Francisco Bay Area is situated on two major fault lines, the Hayward Fault and the San Andreas

Fault, as well as a number of smaller faults that also poses risks to the region, as evidenced by the 2014 Napa earthquake. The risk of a major earthquake in the region, defined as a 6.7 or larger on the Richter scale, is 72% in the next 28 years, with the perceived risk the highest (just over 22%) along the Hayward Fault in the East Bay (Krieger, 2017). These fault lines run along densely populated areas, and in some cases, right through them - for example, the Hayward Fault runs through the middle of UC Berkeley's Memorial Stadium, which necessitated a major retrofitting effort in recent years. The region has experienced three earthquakes above 6.0 in the past 120 years - the 1906 earthquake and subsequent fire, which leveled much of San Francisco; the Loma Prieta earthquake in 1989 that caused significant damage to the Bay Bridge spanning San Francisco and Oakland; and the 2014 earthquake in Napa, which emerged on a fault that had been dormant for over 11,000 years (Lin and Xia, 2016). Each earthquake required responses from governmental organizations, nonprofits and citizens. By examining the historical narrative of these three major seismic events, it is possible to discern the need for cross-coordination and resilience in the San Francisco Bay Area's nonprofit sector to ensure effective emergency response and long-term community support.

Historical Perspectives

The Bay Area of April 1906 differed greatly from that of 2017 in terms of sheer population size, density, infrastructure and technology. However, this disaster highlights both the necessity of collaboration and the corresponding dangers of undeveloped relationships and partnerships. The earthquake and fire also demonstrated the immense resilience of the Bay Area, as the city quite literally rose from the ashes to host the Panama-Pacific International Exposition nine years after the disaster (Bronson, 1959/2006, p. 184). The earthquake struck early on the morning of April 18th, 1906 and caused significant damage to buildings across the

city. When residents attempted to cook in their damaged homes, the leaking gas sparked fires, eventually erupting into a massive conflagration (because breakfast played such a role, it was known colloquially as the “Ham and Eggs Fire”). Over 3,000 people died in the earthquake and subsequent fire, with approximately 200,000 more displaced from their damaged or destroyed homes (“San Francisco Earthquake, 1906,” n.d.). San Francisco’s fire chief, Dennis Sullivan, had spent years on fruitless efforts to upgrade San Francisco’s water mains and fire fighting efforts, struggling with indifferent city leaders - ironically, as the Fire Department seemed to manage fires effectively, there was no urgency surrounding the need to implement a new system (Bronson, 1959/2006, p. 21). Dennis Sullivan had effective firefighting systems in place, but they were extremely hierarchical and depended on his expert leadership and guidance. He was seriously injured in the earthquake and died soon after, leaving the various actors in the response efforts to manage a catastrophic emergency without a clear leader atop the chain of command, although the military would step in to fill some of this vacuum. This is perhaps one of the clearest examples of the importance of collaboration before disasters, as placing responsibility in the hands of a few isolated managers risks decentralization or loss of knowledge.

In the aftermath of the 1906 earthquake and fire, what would now be termed the “nonprofit sector” consisted of charitable societies, churches and spontaneous volunteers. The scale of the relief efforts is particularly impressive considering the technology and communication available at the time. As depicted by Bronson (1959/2006), various communities around the country rallied to deliver supplies and help in various ways - New York City “raised more than \$185,000” for San Francisco and “1,800 carloads of supplies” were delivered to San Francisco, while various groups held benefits or events to raise funds for relief efforts (pp. 99-100). Local and federal governments also played a role in the disaster, beyond the military’s

initial response in the immediate aftermath of the earthquake and fire. Notably, the administration and coordination of these efforts was highly complex - President Theodore Roosevelt personally appointed a relief coordinator, who was able to assume control of relief efforts under the auspices of the Red Cross, eventually distributing millions of dollars to those in need (Bronson, 1959/2006, pp. 103-104). The city also constructed temporary housing in the aftermath of the earthquake, housing refugees for months while rebuilding efforts began around San Francisco.

Eighty-three years later, the 1989 Loma Prieta earthquake struck against what were surely astronomical odds on October 17th, 1989. At San Francisco's Candlestick Park, the San Francisco Giants and Oakland Athletics baseball teams were preparing to begin Game 3 of the 1989 World Series - drawing thousands of people to Candlestick Park, bars and events to watch the baseball game rather than head home during the normal rush hour. When the earthquake struck at 5:04 PM, it collapsed a section of the Bay Bridge and part of the Cypress structure freeway in Oakland. The initial death toll reports on these structures were later lowered, with authorities directly citing the World Series game as a factor that reduced the number of projected fatalities (Fimrite, Mandel and Jenkins, 1990, p. 17). As noted by Tierney (1994), both volunteers and nonprofit organizations played a significant role in the aftermath of the earthquake, with their ultimate effectiveness closely tied to "prior disaster planning" and "the degree to which the organization had established ties with other important community organizations" before the disaster (p. 114), thus demonstrating the vital need for nonprofits to manage these tasks before an earthquake strikes. As in 1906, the Red Cross served to assist with immediate response efforts, providing shelter for over 65,000 people and directing the efforts of 8,000 "Red Cross staff," including volunteers ("After 25 Years," n.d.). The 1989 earthquake also demonstrates the flexibility and resiliency required to adapt quickly in the face

of emergency, as this earthquake underscored that disaster truly may strike at even the most unexpected moments. The earthquake produced a number of vital lessons that have been adapted into 21st-century preparedness models - for example, San Francisco Community Agencies Response to Disaster (SFCARD) was formed after the earthquake to formalize the collaborative relationships that emerged between nonprofits and their roles in disaster preparedness and response ("About," 2017). The nature of emergency response in California has also evolved in response to evident needs for formal collaborative structures. Communities have also empowered local residents and volunteers with tools and trainings to act as "auxiliary responders" in disasters within Community or Neighborhood Emergency Response Teams, under the auspices of fire departments and FEMA ("About Community Emergency Response Team," 2016).

Although significantly smaller in scale than the 1906 and 1989 earthquakes, the 2014 Napa earthquake provides the most contemporary example of earthquake response in the greater Bay Area. In addition to the large organizations typically responding in relief efforts, smaller organizations were acknowledged and supported to provide services to constituents in need. In the aftermath of the earthquake, the Napa Valley Community Fund provided grant funding to nonprofits assisting in disaster response - both traditional disaster responders such as the Red Cross, as well as local organizations responding to emerging needs, such as mental health services, falling under the scope of "earthquake-related emergency assistance" ("\$1.2M In Grants," 2014). This funding highlights the more collaborative frameworks underpinning nonprofit emergency response, which has manifested in myriad ways in the Bay Area. Organizations like SFCARD and CERT now serve to train nonprofits and volunteers to act as emergency responders in a crisis. Large-scale disaster drills such as the Great ShakeOut take

place on a regular basis, ensuring annual reminders and recalibrations of preparedness efforts, while providing a framework to implement collaborative efforts.

Methods and Approaches

The primary objectives of the capstone were to examine the collaborative role of the nonprofit sector in emergency preparedness and response, the forms of collaboration taken, effective means of collaboration and specific actions that could be taken by the nonprofit sector to enhance preparedness and response. In order to distill the various concepts from the literature, the initial analysis began with the utilization of a Political, Economic, Social and Technological (PEST) framework, to develop higher-level points that would guide the later stages of analysis. Five expert interviews were conducted with employees of organizations directly or incidentally involved in disaster preparedness and response. The detailed notes from each interview were compiled and analyzed using a coding framework, described by Kara (2017), and the codes were tabulated for frequency of utilization. The top six codes were then employed to create a collaborative framework depicting the role of the nonprofit sector across various facets of disaster planning and response, as well as the dual roles of hierarchical structures and ad hoc networks in collaborative efforts.

PEST Analysis

The PEST framework was utilized as a means to combine high-level concepts gleaned from the literature review and historical perspectives (Figure 1).

Political	Economic	Social	Technological
<ul style="list-style-type: none"> -Governmental agencies are key figures in disaster response, both local and national -Public policy advocacy includes measures to enhance earthquake preparedness -Drills provide structured means to foster collaborative relationships -Shift from highly structured disaster response model to flexible response efforts -Collaboration may be impeded by any number of reasons, including scarce resources, turf wars or lack of central coordinating body 	<ul style="list-style-type: none"> -Disaster preparedness can be time-consuming and expensive, requiring staff time and resources -Earthquakes cannot truly be predicted and scale or extent of damage is difficult to estimate -Economy hinges on effective disaster response and recovery -Nonprofits' resources or staff availability may be greatly depleted during and immediately following a disaster -Established organizations, such as the Red Cross or CERT, have trained volunteers, coordinators and supplies ready for emergencies and can allocate resources to those efforts 	<ul style="list-style-type: none"> -The San Francisco Bay Area has a high cost of living and housing is scarce and expensive -Earthquakes are infrequent and may not register as a serious concern for nonprofits or individuals -Nonprofits may practice emergency drills (i.e. Great ShakeOut) but may not see value in working with other actors for infrequent emergencies -Nonprofits and governmental agencies bring differing perspectives on local constituent groups and needs -Volunteers must be recruited, trained and maintained 	<ul style="list-style-type: none"> -Communication is difficult following a disaster, which in turn may hamper collaboration efforts -Transportation may be greatly impeded due to widespread damage to local infrastructure, i.e. Bay Bridge shut down after 1989 earthquake when section of upper deck collapsed -Need to identify and track metrics that can be used to categorize effective disaster response efforts

Figure 1. The Political, Economic, Social and Technological framework.

Coding Framework and Expert Interviews

The PEST analysis provided a greater sense of clarity and centralization of major concepts and factors related to preparedness and response, which was used in tandem with the expert interviews to guide a coding framework. The expert interviews were conducted with five

employees of organizations involved in disaster preparedness and response in the San Francisco Bay Area:

- American Red Cross Bay Area
- Highlands Community Emergency Response Team (CERT)
- San Francisco Community Agencies Responding to Disaster (SFCARD)
- City and County of San Francisco
- The Exploratorium

The interviews were guided utilizing the central questions underpinning the capstone, namely the collaborative role of the nonprofit sector in emergency preparedness and response, effective strategies, current efforts and each organization's specific role in these efforts. The roles of the interviewees ranged widely - several were directly involved in disaster response as part of their organization's missions, while others were more incidentally involved or planned to respond during a disaster. The lessons gleaned from these interviews were also utilized when forming recommendations.

The coding framework was developed as a means to analyze the qualitative data and provide a means of quantitative data by compiling code usage. There were ten codes (Fig. 2) employed to analyze the qualitative data, which were divided into two segments: pre-disaster and disaster response. The pre-disaster codes incorporated both preparedness and network building, acknowledging the dual roles of these efforts to foster collaboration and planning. Uncertainty was also utilized as a code, as this underpins any disaster planning efforts - it is impossible to know the precise nature of a particular disaster or the ways in which events will unfold. "Established Presence" represented the actors with a clearly defined role in disaster planning (such as the American Red Cross), while "Volunteer Cultivation" was a means to identify the process of recruiting and training volunteers before disaster to mitigate issues with spontaneous volunteers. In "Disaster Response," "Addressing Critical Needs" represented the

efforts undertaken by numerous actors to support immediate response and the most urgent areas of response, such as food, water, shelter and personal safety. “Ad Hoc Networks,” “Flexibility” and “Hierarchical Structures” served to address the roles of both frameworks in collaborative efforts, combining the more formalized response structures with the ad hoc nature of nonprofit support, which may manifest in less predictable or easily-defined ways. “Volunteer Support” was utilized to tabulate the role of volunteers in collaborative response.

Pre-Disaster	Preparedness Building	Uncertainty	Network Building	Established Presence	Volunteer Cultivation
Disaster Response	Addressing Critical Needs	Ad Hoc Networks	Hierarchical Structure	Flexibility	Volunteer Support

Figure 2. Codes utilized for qualitative data analysis.

The interview data was coded using this framework (Table 1) and results were tabulated and calculated to identify the most frequently utilized codes (Figure 2).

Table 1

Expert Interview Coding Framework

Code	Representative Qualitative Data Sample
Preparedness Building	<i>As an example, there was support for the soft story program because they knew that if all buildings failed, it meant shelter space would be maxed out and therefore created a need to retrofit in advance.</i>
Uncertainty	<i>Communications are a big issue in disasters</i>
Network Building	<i>CalFire has provided a budget to purchase supplies and underwrite CERT's ongoing training.</i>
Established Presence	<i>SFCARD administers the VOAD program locally in San Francisco with major organizations (i.e. Red Cross and Salvation Army)</i>
Volunteer Cultivation	<i>Have trained 100+ people and 60-70 people are Highlands neighbors, only 8-10 regularly attend sessions</i>
Addressing Critical Needs	<i>The Red Cross tracks data: everyone who needs a cot or meal gets one, then looks at successfully transitioning them after the event</i>
Ad Hoc Networks	<i>So much of disaster response involves NPOs being able to come to the city, offer help and be proactive.</i>
Hierarchical Structure	<i>Everyone is qualified for a level and there is one person in charge as a "function of necessity"</i>

Flexibility *They also provide primary instructors who have taken national CERT training and modified it so that it better fits the Highlands neighborhood.*

Volunteer Support *Volunteer-based: the only person who is paid is the coordinator of the CERT program, everyone else volunteers*

These codes were then counted for frequency of usage in the interviews (Figure 3).

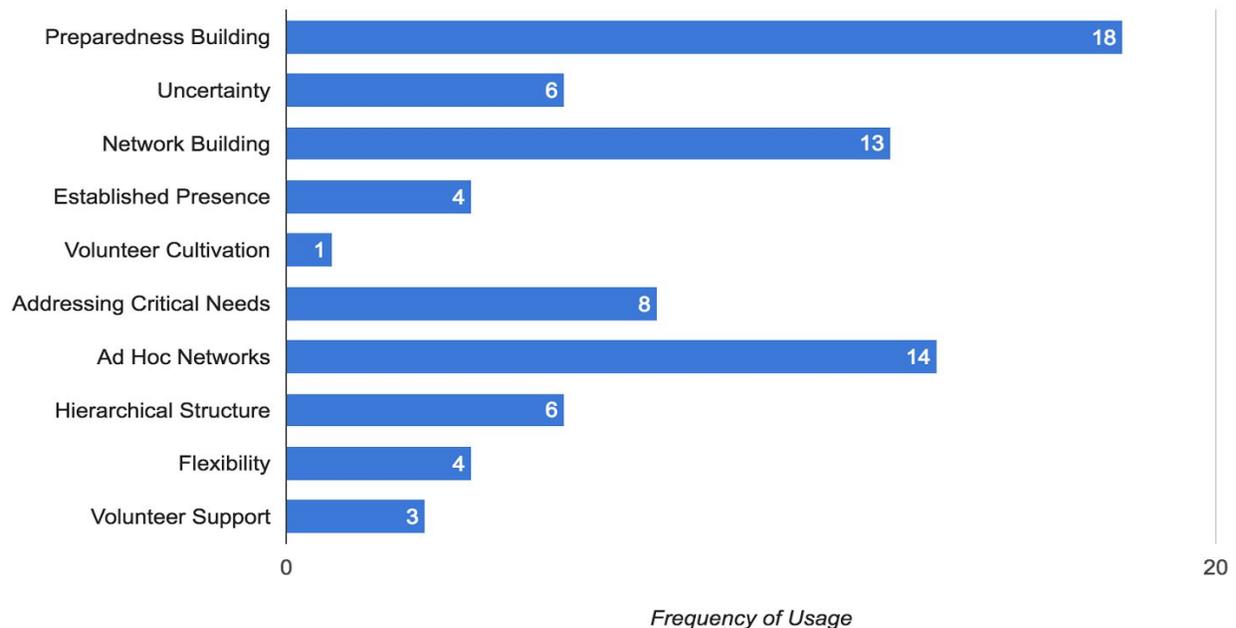


Figure 3. Bar graph tabulating frequency of code usage.

Collaborative Framework

The most frequently utilized codes from the expert interviews were “Preparedness Building,” “Ad Hoc Networks,” “Network Building,” “Addressing Critical Needs,” “Hierarchical Structure” and “Uncertainty.” These top six codes were chosen to create a collaborative framework (Figure 4) that depicted specific actions that could be taken by or include the nonprofit sector and enhance preparedness and response efforts. The activities or concepts within each section acted as the outputs supporting each outcome. For example, within ad hoc networks, it would be necessary for organizations to act with spontaneity and guide their response efforts according to their internal strengths to provide a more effective framework.

Preparedness building can be supported with activities such as disaster drills, training session and meetings, which provide actors with formalized knowledge and planning to be implemented in disaster. Preparedness Building in turn supports both network building (as it involves partnerships with other actors), ad hoc networks (as it involves knowledge of nonprofits' services and strengths) and addressing critical needs (to support the most vulnerable, organizations must know who and where they are). Network building can also support a more hierarchical structure, as organizations can utilize frameworks such as the Incident Command System to identify those who will step in and act as leaders in crisis, while ensuring more centralization of efforts. Uncertainty also plays a role in the collaborative framework, as it is inevitable before and during an emergency. As one interviewee stated, interagency partnerships make sense in theory, but in practice are very difficult (S. Sakai, personal communication, March 27, 2017).

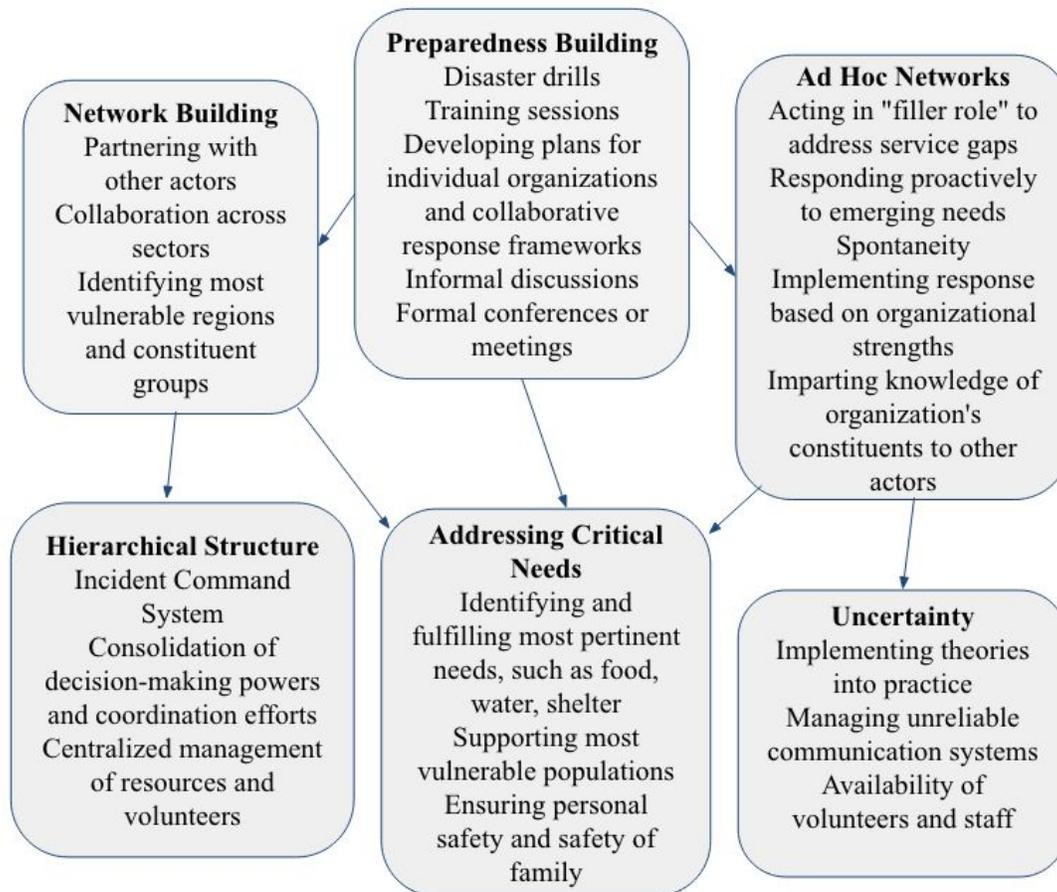


Figure 4. Collaborative framework.

Conclusions and Recommendations

One of the most essential concepts underpinning this examination of the nonprofit sector's role in collaborative efforts is that *nonprofits are uniquely equipped to act as emergency planners and responders, even if disaster services are not within the organization's core mission*. As evidenced by the literature review, historical perspectives and expert interviews, nonprofits can serve to provide vital support across all areas of disaster relief and response. They are highly familiar with their constituents' needs and with the particular structure of the communities they serve. They are also accustomed to operating in disaster-like conditions - as stated in one expert interview, for nonprofits "their day to day is a disaster," characterized by a

scarcity of resources, demands on staff time and a wider range and urgency of needs than could ever be met by a single organization (B. Whitlow, personal communication, April 27, 2017). Nonprofits also operate in collaborative partnerships in myriad ways across the sector, ranging from government agencies to other nonprofits to the donors and volunteers who commit to supporting their organizations. There are several recommendations that can be made to support these collaborative efforts and enhance the role of the nonprofit sector in disaster preparedness and response:

- *Nonprofits must be flexible and open to spontaneity.*
- *Nonprofits must understand their core strengths to identify ways they can respond proactively to address emerging needs. They must also know and understand their most vulnerable constituents and areas of need.*
- *Draw from existing resources to assist with preparedness and planning. Advance preparation takes many forms.*

As stated by Drabek and McEntire (2002), emergency planners must “implement twin foundations of preparedness and improvisation” (p. 214). This is especially vital for nonprofits, as most organizations have limited time for advance disaster response planning. As expressed by one interviewee, nonprofit emergency response efforts are highly dependent on their ability to get to San Francisco and be “proactive,” identifying areas of need that can be addressed with their expertise (J. Wilkinson, personal communication, March 28, 2017). They also utilized the relationship between the Salvation Army and the City of San Francisco as an example, describing the nonprofit’s role as an “assist for response” - serving to enhance existing preparedness and response efforts, rather than creating a new and unique role (J. Wilkinson, personal communication, March 28, 2017). In order to act in this role, nonprofits must build a capacity for flexibility and spontaneity, which differs from the phenomenon of spontaneous

volunteers who arrive to assist in emergencies and can cause distractions, misuse of resource or unintentional harm. The critical differentiator between spontaneity and spontaneous volunteers is *advance knowledge and preparedness*, which can be enhanced in a variety of ways - for example, the Red Cross has thousands of highly trained volunteers who can be deployed quickly and effectively to disaster zones (E. Alexander, personal communication, April 1, 2017).

In order to enhance flexibility and spontaneity, nonprofit organizations must develop the capacity to understand their critical strengths in disaster response. This may differ from the wide range of services outlined in their day-to-day mission and activities, but this knowledge is critical for effective response - recall, as Flatt and Stys (2012) stated, nonprofits must balance the escalating needs of their current constituents while managing an influx of people in need of services (p. 351). This is particularly urgent with nonprofits that support basic needs, such as food, water or shelter. An organization that delivers meals to homebound seniors will need to identify ways it can continue to provision that group after disaster, or identify a partnership with another organization to assist with resources or logistics. Partnerships are critical to these efforts, as they ensure that the most urgent areas of need will be addressed by capable volunteers or staff after a disaster and not haphazardly managed long after situations have become dire.

The San Francisco Bay Area has numerous groups and associations that promote earthquake preparedness and response, such as SFCARD, the Bay Area Earthquake Alliance and Thrive Alliance. These organizations provide resources, consultations, meetings and collaborative frameworks for nonprofits to utilize, depending on their areas of interest and expertise. In 2013, multiple organizations participated in a "Disaster Feed" in San Francisco as part of a larger disaster drill, including food banks and the Salvation Army - organizations that

utilized existing partnerships and extended them into emergency response, feeding their constituents to practice for large-scale meal operations after a disaster (Zussman, 2013). This exercise serves as an example of the ways in which nonprofits can simultaneously prepare to act as emergency responders and deepen existing partnerships. Nonprofits can also act in existing disaster drills, such as the annual Great ShakeOut, and use these activities as a means to begin conversations with other partners about possible disaster response activities. The Great ShakeOut website itself offers resources to nonprofits, suggesting they “discuss what role is likely to emerge for your organization and begin to plan and create alliances to meet the mission of that role” (“The Great California ShakeOut,” n.d.). There are also numerous organizations and websites with materials for organizations to draft disaster plans. SFCARD provides an “Agency Emergency Plan” template that provides extensive, step-by-step instructions for nonprofits to ensure the safety of their employees and craft early response efforts with what it terms the “Disaster Mission” (“Agency Emergency Plan”, 2011). This framework pushes nonprofits to examine their core strengths and which areas might be applicable after disaster. For example, a mental health services agency would not be actively assisting in search and rescue efforts, but instead might provide counseling or support groups in the days, weeks, or months following a disaster.

Disaster preparedness efforts can be time-consuming, particularly for nonprofits with limited time to focus on activities outside the normal scope of mission. However, nonprofit organizations can reframe these preparedness efforts as a means to strengthen the organization and bring clarity to mission and service delivery, serving as a strategic planning tool. In closely examining the organization’s most vital services and most vulnerable constituent groups, leaders may also glean insight into critical operations that may require more support or strategy. These efforts can also bring about new partnerships, whether via existing networks

such as SFCARD or strengthen collaborations with nonprofits with similar missions (such as food banks in the “Disaster Feed”). Disaster planning requires critical thinking, careful examination of logistics and service management with limited resources, and these skills can serve nonprofit leaders across all aspects of organizational operations. Nonprofits are vulnerable to a host of concerns beyond natural disasters, and will need to adapt and respond quickly to changing conditions to ensure their most vulnerable constituents remain supported. Disaster planning, preparedness and collaborative operations foster partnerships and skills that can extend across the sector, while providing nonprofit leaders with a sense of purpose and accomplishment that extends beyond their day-to-day operations.

Collaboration is essential to the health and effectiveness of the nonprofit sector. Disaster preparedness can be utilized as a lens to examine the sector’s role and its essential services to communities. However, this collaboration requires concentrated effort and activities. In disaster planning, this may manifest as preparedness activities or formalization of existing partnerships. The flexibility and adaptability of the sector can serve to support disaster response activities, operating in ad hoc networks that can step in to address critical needs. Nonprofits bring many strengths to these efforts, as they have cultivated relationships with their communities and can operate vital services under constrained conditions. These activities demonstrate the importance of the nonprofit sector to larger communities - while they may not provide immediate emergency response, they support and build on existing activities to ensure greater resilience and success.

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