

Nongovernmental Resources to Support Disaster Preparedness, Response, and Recovery

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ABSTRACT

Objective: Although recent emergencies or disasters have underscored the vital role of nongovernmental (NGO) resources, they remain not well understood or leveraged. We intended to develop an assets framework that identifies relevant NGO resources for disaster preparedness and response that can be used to assess their availability at state and local levels.

Methods: We conducted a search of peer-reviewed publications to identify existing asset frameworks, and reviewed policy documents and gray literature to identify roles of NGOs in emergency preparedness, response, and recovery. A standardized data abstraction form was used to organize the results by NGO sector.

Results: We organized NGO assets into 5 categories: competencies, money, infrastructure or equipment, services, relationships, and data for each of the 11 sectors designated by the Centers for Disease Control and Prevention in the 2011 preparedness capabilities.

Conclusions: Our findings showed that the capacity of each sector to capture data on each asset type needs strengthening so that data can be merged for just-in-time analysis to indicate where additional relief is needed. (*Disaster Med Public Health Preparedness*. 2013;7:348-353)

Key Words: nongovernmental organizations, assets, disaster, resilience, community, recovery

The growing scale and frequency of disasters emphasize not only that these events are probable, but that the resources required for successfully responding and recovering from each disaster will be progressively spread thin. The economics of disaster has become a highly debated policy issue (eg, amendments to the Stafford Act were vigorously argued in Congress in 2011), underscoring the necessity for communities to harness the full range of governmental and nongovernmental (NGO) assets. Every recent emergency or disaster has underscored the vital role of NGO resources in enhancing emergency preparedness, response, and recovery.¹ Investments—of time, effort, and expertise, not just financial resources—are needed. NGOs (nonprofit and for-profit) provide information, supplies, and direct services and have access to diverse populations, which are integral in community rebuilding.

Reflecting this reality, the focus of preparedness policy is broadening to address the role of NGOs. For example, the National Health Security Strategy (NHSS) includes a full range of participants in health security, including federal, state, and local governments; community groups; private businesses; and individuals.² In spite of the change in policy focus, NGO resources, particularly those of the private

sector, are still not well understood or leveraged.^{1,3-6} The first step in harnessing and making the best use of NGO resources is to develop a common understanding of what the resources are and how they can support disaster preparedness, response, and recovery. The present focus study presents an assets framework that identifies relevant NGO resources for disaster preparedness and response that can, ultimately, be used to assess their availability at the national, state, and local levels.

METHODS

The study proceeded in 2 phases. First, we conducted a literature review to identify existing asset frameworks and a literature and policy review to identify roles of NGOs in emergency preparedness, response, and recovery. Next, we used a standardized data abstraction form to organize the literature review results by NGO sector.

Literature Review to Identify Asset Frameworks

Database and Article Searches

We conducted a review of peer-reviewed publications and the gray literature to identify literature on asset frameworks using Ebsco Host, which consists of 15 databases including Academic Search Complete,

ERIC, and PsychInfo. The search term “asset map*” yielded 78 results. Each abstract was reviewed and 7 full-text articles were downloaded for data abstraction. We also used Google Scholar (search terms: “asset mapping” + “disaster”) to identify additional articles. The first 50 results sorted by relevance were examined, with 2 additional full-text articles selected for further review. To include resources developed for community audiences and other gray literature, we conducted Google searches using the terms “asset mapping” + “disaster” and “asset mapping” + “inventory” to identify articles for further review. The searches yielded 14 articles. In addition, 2 resources well-known to the disaster preparedness community, from the University of California at Los Angeles Center for Health Policy Research and the Sahana Foundation were included.

Data Abstraction

We developed a data abstraction form (DAF) to systematically extract information from the articles. The 4 broad categories of information included:

1. Background information: publication title, author, year, and other administrative notes such as filename and which database search it came from
2. Asset definition: definition of *asset*, the type of organization it was tailored for, and the methodology or theory it was grounded in
3. Asset categorization: whether the article was specific to disaster (preparedness, response, or recovery), the original asset categories listed, and definitions of asset categories including skills or knowledge, money, infrastructure or space, services, relationships, and data
4. Asset assessment: measures and types of questions used to assess the asset categories and whether there was any comparison to government

An “other” category was added as necessary to capture additional details not captured by the abstraction fields. Each full-text article was reviewed using the abstraction form and entered as a record in a spreadsheet (Excel).

Literature and Policy Review to Identify Roles of NGOs in Emergency Preparedness, Response, and Recovery

Peer-Reviewed Literature

Articles from 2000 or later were identified using a title search of Medline (PubMed) and PsychInfo. Search terms included: nongovernment* or nonprofit or faith-based or business or community-based AND disaster or resilience or preparedness or emergency or mitigation. The search identified 40 articles. A title and abstract review narrowed the search to 23 articles. Recent reports written by the authors were also included in this literature review.^{2-4,7,8,11,12} One review¹¹ included an assessment of 86 articles on community resilience (from 464 initial citations), which resulted in an additional 40 articles with substantive focus on NGOs and disaster.

Review of Policy and Federal Guidance

We also reviewed the following recent policy documents to identify NGO roles as outlined in current policy and federal guidance: National Health Security Strategy,¹⁰ the National Security Strategy,¹³ the National Disaster Recovery Framework,¹⁴ Homeland Security Presidential Directive 21,¹⁵ Grand Challenges for Disaster Reduction,¹⁶ All-Hazard Risk Mitigation Plan,¹⁷ the Department of Health and Human Services (HHS) Pandemic Influenza Plan,¹⁸ and the Federal Emergency Management Agency’s Whole Community Engagement Strategy.⁹

Review and Abstraction of the Literature, Policy, and Guidance

A DAF facilitated systematic evaluation, capturing from each document several elements regarding content (eg, type of study, data collection method, analytic approach, and a summary of key findings). We used the DAF to catalog the unique capabilities of NGOs referenced in each citation (eg, flexibility), determinants of involvement in disaster operations (eg, financial considerations), services NGOs provided during disaster response and recovery (eg, shelter, food), and how these key services differed for routine and emergency times.

Abstracting Information by Sector

As a final step, we combined the DAFs from these searches into a single database (Excel) and then organized the abstracted information by the 11 sectors designated by Centers for Disease Control and Prevention Centers for Disease Control and Prevention in the 2012 preparedness capabilities: business; community leadership; cultural and faith-based groups and organizations; emergency management; health care; social services; housing and sheltering; media; mental/behavioral health; state office of aging or its equivalent; education and childcare settings.

RESULTS

The NGO assets were organized into 5 categories: competencies, money, infrastructure or equipment, services, relationships, and data (see Table).

Competencies

The category called competencies includes the knowledge, skills, and expertise of each sector.¹⁷⁻²³ These competencies varied widely by sector from expertise in financial and organizational management and local supply chains (business sector²⁴) to expertise in child development (education and childcare settings²⁵). For example, the United Parcel Service of America used its expertise to establish the International Transportation Program, which offers discounted supply-chain management and logistics support to NGOs delivering aid across the globe.²⁶ This system was used to ship radiation detectors to Japan after the 2011 earthquake, tsunami, and Fukushima nuclear disaster.²⁷ Some sectors offered disaster-specific competencies

TABLE

Nongovernmental Resources by Centers for Disease Control and Prevention Partnership Sector

Sector	Competencies	Money	Infrastructure or Equipment	Services	Relationships	Data
Brief Definition	Knowledge, Skills, and Expertise	Financial or Economic Assets	Physical Assets and Built or Constructed Facilities (eg, gyms, kitchens)	Help or Aid Supplied	Social or Professional Ties or Connective Organizations	Information Collected
Business	Financial and organizational management, local supply chains	Investors and customers	Warehouses, transportation, trucks, goods (eg, supplies, food)	Supply a variety of goods or services to local residents	With supply chains, transport, customers, connector to chambers of commerce	Purchasing patterns, supply chain disruptions
Community leadership	Policy development/enforcement, advocacy	Community funds or foundations	Public buildings, local government, local law enforcement	Advocate for community change, develop and enforce policies	With constituency and other local leaders, connector to national leaders	Pending policies
Cultural and faith-based groups and organizations	Community values, spiritual and emotional support	Philanthropic support	Congregations or constituencies, churches or cultural centers, religious texts, donations of food or clothes	Donations and volunteer management, spiritual and emotional care, translation support	With congregations or constituencies, and other cultural and faith-based groups, connector to HHS OFBNP	Needs and assets of congregations and constituents
Emergency management	ICS, disaster resources and financing, and emergency plans	Disaster financing	ICS, operations or command center, emergency communication systems, and surveillance systems	Manage emergency operations, conduct surveillance	ICS, with public health, government, connector to FEMA and DHS	Risks and hazards, damage and threat assessment
Health care	Patient triage, care, management, and transfer	Government programs (Medicare and Medicaid) and private insurance companies	Hospitals, community health centers, private practices, urgent care facilities, medical equipment, vaccines, and other countermeasures	Coordinate and deliver physical health care	With patients, providers, pharmaceutical companies, medical suppliers, insurers, connector to HPP	Patient needs, service access and utilization, medical supplies, pharmaceutical supplies
Social services	Case management, employment, child protection, disability services	Primarily government programs	Intake centers, service agencies	Coordinate and deliver social services	With clients, social service providers and case managers, connector to ACF, DSS	Client needs, service access and utilization
Housing and sheltering	Assessing housing needs (permanent and temporary), providing housing and shelter services	Primarily government programs	Temporary and permanent dwellings, intake center, cots, blankets, etc	Short- and long-term housing	With builders, construction, lenders and mortgage/insurers, connector to HUD	Availability of housing (eg, waiting lists, transition lists)
Media	Communication, information dissemination	Investors and customers	Print or networking center, broadcast center (video and radio), offices, mass printing, web capabilities, microphones, cameras and computers	Information dissemination	With other print/web/ radio media, connector to national media	Circulation statistics (eg, demographics, reach)
Mental/behavioral health	Assessment of problems, inpatient and outpatient care	Government programs (Medicare and Medicaid) and private insurance companies	Assessment centers, emergency or after-hours care, mobile care units, inpatient facilities, outpatient clinics or private practice offices, psychotropic and other medications, evidence-based therapeutic approaches	Mental health care, substance abuse prevention and treatment	With clients, behavioral health providers, pharmaceutical companies, connector to SAMHSA	Client needs, service access and utilization
State office of aging or its equivalent	Surveillance, nonmedical services, education, and resources for seniors, caregiver education	Primarily government programs	Government office, local service providers (eg, transport, civic, nutrition), transport vehicles, senior resources directory, senior educational materials	Nonmedical services for seniors	With seniors and senior service providers	Senior needs, senior service access and utilization
Education and childcare settings	Child development, multimodal education, child transport and food service	Local tax base	Schools (precollege) that house gyms and kitchens, day care centers (commercial and residential), program specific providers (eg, Gymboree), books and toys, duplication and audiovisual equipment, desks and chairs	Educational programming, Head Start, nutrition programs (eg, free or reduced-cost school lunch)	With children, parents, childcare providers, and educators, connector to DOE	Student needs, academic performance, rates of students receiving free or reduced-cost lunch, shifts in student demographics or enrollment

Abbreviations: ACF, Administration for Children and Families; DFS, Department of Family Services; DHS, Department of Homeland Security; DOE, Department of Education; FEMA, Federal Emergency Management Agency; HHS OFBNP, Health and Human Services, Office of Faith-Based and Neighborhood Partnerships; HUD, Housing and Urban Development; HPP, Hospital Preparedness Program; ICS, Incident Command System; SAMHSA, Substance Abuse and Mental Health Services Administration.

such as knowledge of ICS and disaster financing, and skills in emergency planning (emergency management); while others offered specialized knowledge used in both routine times and times of disaster, such as how to treat and care for those with physical illness or psychological problems (health care and behavioral/mental health, respectively²⁸).

Services

The services or help/aid supplied by sectors followed closely with their competencies.²⁹⁻³¹ For example, in 1998 after a major flood (ie, covering up to 68% of the country's total land area for 10 weeks) struck Bangladesh, the Bangladesh Rural Advancement Committee diverted staff and resources from normal operations to assist with disaster recovery efforts. Applying their expertise in long-term development projects, the staff was able to respond to the housing and economic consequences of the flood by assisting people in returning to their homes and to their regular income-generating activities as quickly as possible.³²

Money

NGOs also provide financial or economic assets that may benefit a community before, during, or after a disaster.³³⁻³⁷ These include nonprofit and philanthropic dollars funneled through community funds or foundations (community leadership and cultural and faith-based groups), as well as private investors or customer/organizational donations (business). After Hurricane Katrina, the Target Corporation donated \$1.5 million to the American Red Cross and authorized stores in the affected areas to provide in-kind product donations and grants to local NGOs. Sara Lee Corporation set up a disaster relief fund and matched employees' contributions 2:1.

Infrastructure or Equipment

NGO assets also included physical assets and built facilities such as gyms and kitchens that can be used for sheltering, distribution of goods, emergency operations, exercises, and other preparedness and response activities.^{22,38-40} For example, Target Brands, Inc offered company teams to provide volunteer support and real estate in Louisiana to the Red Cross to establish a command center supporting the most heavily affected areas of the storm.⁴¹ Locations and addresses of physical infrastructure were available across all the sectors and could be mapped through existing mapping programs, such as Sahana,⁴² Ushahidi, or HHS's MedMap.

Relationships

NGOs can also serve as important connectors based on their social or professional ties. These relationships can be leveraged for communication and information dissemination, as well as for additional resources and support.^{43,44} In advance of Hurricane Michelle in 2001, neighborhood representatives from the Federation of Cuban Women monitored their vulnerable population while the community physicians surveyed patients in the neighborhood to see if anyone needed to be moved to the hospital before the storm hit.¹

Data

Given their range of services, NGOs collect information that may be useful for emergency planning. This information includes the location and prevalence of vulnerable populations, as well as the availability of the assets described. Previous efforts to track resource flows have been hampered because of limited capacity for data sharing and analysis. For example, Tulane's Disaster Resilience Leadership Academy was unable to track resource flows for humanitarian and recovery assistance after the earthquakes in Haiti and recommended targeted capacity building to allow public and private institutions to better share and analyze data needed for targeting recovery resources.⁴⁵ Recognizing this limitation, RAND researchers recently convened a panel of community-level disaster resilience members. This analysis, which is forthcoming, illustrated the unique data contributions of NGOs, including volunteer and organizational capacity information.

DISCUSSION

The analysis presented in this brief report underscores the value of NGOs in providing resources for disaster preparedness, response, and recovery, and it also highlights the relatively limited use of available data on these resources for informing emergency planning. Currently, national policy calls for greater engagement of NGO assets; however, no framework exists to categorize and assess the quality of these contributions. The development of an assets framework described in this report represents a critical step toward that goal.

Given the challenge in tracking the flow of resources after disasters,⁴⁵ strengthening the capacity of each sector is needed to capture data on each asset type in ways that can be merged for just-in-time analysis of where additional relief is needed. Developing an assets inventory and an ongoing system to track assets could help improve awareness of where resources can be leveraged to meet community needs before, after, and during a disaster.

CONCLUSION

The assets framework described herein is a step toward generating a standardized inventory of NGO assets for disaster response and recovery. An assets inventory is valuable because it provides a standardized way to identify potential contributions of NGOs, including both resources and relationships. To harness NGO assets, a common understanding of what the resources are and how they uniquely contribute to disaster efforts is needed. Although the assets framework needs to be applied and tested in future community planning and disaster response, it serves as more specific guidance for public health agencies struggling to adapt to the demands of a new national preparedness and recovery policy. It also provides some structure to future community planning, resource allocation, and metrics on which to evaluate NGO disaster involvement.

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