

A Disaster-Management Lacuna: People with Disabilities

R. Sever

Hebrew University, Jerusalem, Israel



SUMMARY

In emergencies, handicapped people may encounter particular difficulties that make the general facilities and assistance inaccessible to them. At the same time, services that usually cater to their special needs also suffer damage and become less effective or even unavailable. This is what was happening in a bombarded region of Israel in summer 2006.

The research presented in this paper is a case-study of a project which had been created to respond to requests for assistance from people with disabilities living in their communities within the emergency zone. The case-study is based on documentary material, program records, in-depth interviews with the partners and staff members of the program, and a survey of a representative sample of people with disabilities who requested assistance from the project. Although the emergency was created by conditions of war, lessons learned from this case-study can be relevant for earthquake disasters as well.

Keywords: people with disabilities; disaster management; special needs in emergency

1. INTRODUCTION

When the world was attentive to the shocking reports and images out of Haiti in the aftermath of the January 2010 earthquake, nothing was heard about what was happening to people with disabilities. (Phillips, Estey & Ennis, 2010).

Disasters tend to discriminate against disabled people. "The reality [...] is that there is a higher mortality rate in natural disasters among people with disabilities compared with the non-disabled [...]. The specific needs of people with disabilities are often overlooked and underserved during the processes of decision making that accompany disaster management and recovery." (Fu et al, 2010: 76). According to a study after the great Hanshin-Awaji earthquake in 1995, the odds ratio (OR) of death for persons with pre-existing physical disabilities nearly doubled; a similar study after the Taiwanese earthquake in 1999 found that the OR was 1.7 for deaths of persons with pre-existing moderate physical disability and doubled for persons with pre-existing mental conditions. (Reinhardt et al, 2011).

1.1 Who Are People With Disabilities?

Most people will, at some time during their lives, have a disability, either temporary or permanent, that will limit their ability to move around inside or outside a building and to easily use the built environment or to function effectively in other aspects. Disabilities manifest themselves in varying degrees, and the functional implications of the variations are important for emergency evacuation. One person may have multiple disabilities, while another may have a disability whose symptoms fluctuate. (NFPA 2007).

There are many forms of disability, such as paraplegia, quadriplegia, deafness, blindness and defects of vision, mental illness and retardation, cerebral damage, stroke, senility and dementia, Alzheimer's disease, and numerous forms of dependence on personnel, equipment and supplies for support to the vital functions that sustain life. Although old age is not in itself a disability, many very old people are frail and lack mobility, and they may also be ill or susceptible to various diseases and conditions. There are various classifications of the great variety of disabilities. Alexander (2008) for example

suggests the following categories (individuals may of course suffer from more than one form of disability): difficulties of personal mobility, inability to see (with possible use of guide-dogs), deafness, problems of communication and articulation of words (as with stroke victims), cognitive disorders, various medical problems, use of life-support systems, people who suffer from intolerance of chemical or environmental substances, psychiatric disorders and panic attacks, and infirmity associated with old age.

The different categories of disabilities require a varied catalogue of provisions during emergencies, including transport for people with reduced mobility, specialized means of communication for those with cognitive or speech difficulties, provision of portable or substitute equipment for those who depend on life-support systems, and psychiatric support for those with mental health problems (Alexander, 2008).

1.2 Emergency Services Lacunas

In emergencies, handicapped people may encounter particular difficulties that make the general facilities and assistance inaccessible to them. At the same time, services that usually cater to their special needs, such as Centers for Independent Living (CILs)¹ for example, also suffer damage and become less effective or even unavailable.

Damage to CILs' facilities and equipment during the [Katrina] storms hampered their efforts to respond to consumers and others who requested assistance. The ability of CILs to function internally was also significantly disrupted, including an inability to process payrolls, recover files on computers, pay vendors, and maintain other essential services. (White et al. 2007: 13).

Practical guidelines for preparing and/or for assisting the disabled in emergencies are being published by various organizations and emerging in various states.

One of a number of examples is a guide published in Istanbul. It predicts that getting the necessary aid would be impossible at the first 72 “golden hours” during a disaster or emergency. Getting through this period with the minimum loss, the guide states, depends on being prepared. The target population of this guide consists not only of disabled people, but also of their families, relatives, friends and the personnel in the corporations from which they get service - who should all have information about disaster preparation. The guide includes general information for all disabled groups and basic information that is distinctively prepared for each disabled group for earthquake preparedness. (<http://www.guvenliyasam.org/en/publications/first-72-hours-for-disabled-people-in-an-earthquake>).

Another example is the NFPA *Emergency Evacuation Planning Guide for People with Disabilities*, which was developed in response to the emphasis that has been placed on the need to properly address the emergency procedure needs of the disability community and is available to everyone in a free, downloadable format from the websites of several organizations (e.g. , www.nfpa.org). This Guide addresses the needs, criteria, and minimum information necessary to integrate the proper planning components for the disabled community into a comprehensive evacuation planning strategy. It provides information on five general categories of disabilities: mobility impairments, visual impairments, hearing impairments, speech impairments, and cognitive impairments.

Despite the growing availability of such guides, in actual emergencies a lack of integration and co-operation is found between the various organizations that work with the disabled and the civil

¹ The term ‘center for independent living’ means a consumer-controlled, community-based, cross-disability, nonresidential private nonprofit agency that is designed and operated within a local community by individuals with disabilities and provides an array of independent living services: Information & referral, Independent living skills training , Individual and systems advocacy, peer counseling etc. <http://www.ilru.org/html/publications/directory/>

protection community which must plan for and manage emergencies. (Alexander, 2008). This was highlighted by a recent research (White et al. 2007) which identified major barriers faced during Hurricane Katrina by Centers for Independent Living (CILs) and emergency managers in responding to the needs of people with disabilities. The researchers studied the major barriers and gaps that CIL personnel experienced in three areas:(a) locating and assisting people with disabilities; (b) meeting their independent living needs including medication and durable medical equipment, accessible housing and transportation, and accommodating caregivers and service animals, and(c) providing for assistive technologies. The research found significant gaps in three key areas: (a) pre-disaster planning by CILs, individuals with disabilities, and local emergency management agencies; (b) pre- and post-disaster communication and information sharing within CILs, between CILs and consumers, and between local emergency management agencies; and (c) pre- and post-disaster coordination between CILs and other disability agencies, local and regional emergency management organizations, and community supports.

The research revealed that little pre-disaster planning took place in the CILs and they were caught unprepared. There was also little interaction between the CILs and emergency management personnel before the hurricane .Some of the CILs did have a plan in place to protect data stored on computers, but the planning in other areas, including equipment, vehicles, supplies, and staffing, was either incomplete or non-existent. CILs did not have anyone on staff with disaster preparedness training and did not have a plan or procedures to provide services in the event of a disaster. The one CIL that did report having procedures in place also reported that they were not written down. Some CILs reported having a formal or informal relationship with local emergency managers before the storm, but none had a formal plan in place with the local emergency management agency. In the same way, local emergency managers had little contact with disability organizations before the storm.

1.3 The Academic Lacuna

Few empirical data on the evacuation of disabled people during emergencies and crises exist. Although a number of articles have been published on the impact of both natural and technological disasters (such as hurricanes, tornados, floods, earthquakes, train collisions, and plane crashes) on elderly people, most researchers did not distinguish between frail and strong elderly populations. The body of research on people with disabilities during and after emergencies is still very small and the subject is seldom a theme at emergency management conferences. "With few exceptions, the whole issue of the disabled in emergencies has been roundly overlooked in the academic literature" (Alexander, 2008).

Some of the few exceptions published in the last two decades, are Rahimi's (1993) study of the behavior of 33 physically disabled people during the Loma Prieta earthquake that shook the greater San Francisco and Monterey Bay areas in 1989; Takahashi et al' s (1997) study of the effects of the 1995 Hanshin earthquake in Japan on people with cognitive disabilities, and Fu et al's (2010) study of the role of communications before, during and after the 2008 earthquake in Sichuan province in China, among people with disabilities.

Takahashi et al (1997) described the vulnerability of (adult) people with intellectual disability when services were disrupted by a major earthquake. "Before the earthquake, many people with intellectual disability lived at home with their family (mostly parents) and attended a workshop or day centre. Most of them travelled to the workshop or day center using public transport." But people with these disabilities who survived the earthquake had difficulty in adapting themselves to refuge life and maintaining their lives under very strict circumstances. "There were no private spaces in the refuges, and people with intellectual disability were rejected and segregated by their neighbors in the refuges because of their strange behavior and noisy utterances. This was another severe stress for these people". (Op. cit.: 194). Furthermore, they had a hard time getting food and other necessities that were brought to the shelters by volunteers, "Food and daily necessities were brought in and distributed by volunteers. However, the distribution was not always to be completely impartial. Thos who had the power to assert themselves used to come to the front of the queues to make their demand and get

preferential treatment." (op.cit:194). People who could get through to the volunteers and express their demand, had a better chance of getting what they needed than those who didn't know how to do this. Thus people with cognitive disabilities had difficulties in functioning in these shelters. The researchers emphasized the value of multiple networks of support at the time of a major disaster and accessible register of people with cognitive disabilities and (Takahashi et al, 1997.)

Fu et al (2010) found that in the first few days after the Sichuan earthquake, people with disabilities relied on battery-powered radios and face-to-face communication to receive disaster-related information. Many listened to the radio in groups, as some people's radio sets were lost when their houses collapsed. One example of an application of wireless communication for people with disabilities was a 'virtual network' service – a communication package that stimulated peer-support among people with disabilities before and after the earthquake. After the earthquake, power for communication devices became a key issue as people in the affected areas struggled to maintain communications with the world outside. This brought the researchers to suggest further research that would explore the feasibility of developing and marketing low cost solar or hand-generated chargers for mobile phones or radios . They also found that the content of media coverage was making a big difference – both informational support and providing emotional support by the media were very important. People with disabilities depended heavily on the face-to-face communication with local officers (or CDPF officers) for information about the details of social welfare policies and post-disaster subsidies. Information on the subject was received in piecemeal fashion through the mass media or personal conversations, but sometimes the information received did not seem completely consistent with the messages received from the officers, particularly with regard to the exact amount of the subsidies they were supposed to receive. (Fu et al, 2010: 83-84).

Each of these researches focused on one of the disabilities (impaired physical mobility or cognitive impairment) or on one specific aspect (communication) of disabled people's coping with the emergency. The present paper contributes to the abovementioned academic lacuna from a somewhat different perspective. It analyses what happened when a project constructed ad-hoc to assist disabled people during an emergency, struggled to cope with the diversified needs of people with a large variety of disabilities.

2. THE RESEARCH

This is a case- study of a project that operated in Israel during a period of armed confrontations along its northern border in summer 2006. It is based on documentary material, project's records, 16 in-depth interviews with the partners and staff members of the project, and a survey of a representative sample (N=207) of people with disabilities who requested assistance from the project. (Sever 2007).

2.1 Context

The local welfare and health systems were disrupted in the bombarded North which became a disaster zone. A number of problems and needs, of people with disabilities living in their communities, emerged. For example:

1. People with serious disabilities depending on full-time nursing at home, were abandoned by their hired personal caretakers, who fled the warzone leaving them without treatment, assistance, sometimes even without food.
2. People with disabilities who lived independently until then were left without their security networks when many of their neighbors, and even welfare officials, moved temporarily to safer areas of the country together with their own personal families.
3. No official call for evacuation was issued and no evacuation centers were established by the authorities, but many people sought to leave the war zone. They had to find by themselves places to stay, among them many people with disabilities. The latter needed help in finding a suitable place, a task which was especially difficult in cases of a disabled couple, a family with children and a disabled parent, or people with communication disabilities.

4. Even when a place to stay was found, many people with disabilities were unable to get there and needed suitable transportation.
 5. Prolonged hosting of families with disabilities at volunteers' homes yielded strains and required help not only with stress-relief but also solutions to physical and other problems, sometimes even help with the costs of hosting.
 6. Visits of volunteers, phone-calls, outdoors activities etc gained extra importance in face of the stress and sometimes also loneliness of people with disabilities during the emergency.
 7. The emergency intensified emotional distress of people with disabilities; mental-health first aid staff needed to address also their disabilities.
 8. Difficulties of immigrant people with disabilities were complicated by the accumulating effect of their disabilities, anxiety and lack of mastery of the local (Hebrew) language.
- The project studied in this research was initiated in response to a deluge of requests for assistance from people with disabilities living in their communities within the bombed region. They needed an address to turn to for help, a body that could respond to their needs. Improvising was essential, because everybody was caught unprepared for the emergency; and a dynamic framework was necessary, one that could evolve while in motion.

2.2 The Project

The project was named MAGEN - a Hebrew word meaning "shield" - also the acronym of the project's full name in Hebrew: *Maane Gamish Lenechim beherum*, (i.e. "flexible response for people with disabilities in time of emergency").

MAGEN evolved as an ad-hoc partnership between 3rd sector and governmental organizations. It was initiated by the Unit for Disabilities and Rehabilitation at JDC Israel and an advocacy NGO called.

The Israeli Human Rights Organization of People with Disabilities, which became the operating body of the project. Other major partners were the Association for Planning & Development of Services for Children and Youth at Risk, and the Rehabilitation Department of the Ministry of Welfare.

The project was in operation for five weeks, from the week after the war broke out until three weeks after the cease fire was declared. During that period MAGEN handled approximately 2,500 requests on behalf of 6,000 people with disabilities and their families. Most of the requests were from people who sought to evacuate the confrontation areas.

MAGEN provided a respite package of five days in central Israel (mainly in Jerusalem) for 1,820 people with disabilities and their families. In addition to providing accommodation for these people, MAGEN offered emotional support and organized leisure activities. The program also assisted people with disabilities who remained in their homes in the northern region by providing food, medications, and transportation, as well as by contacting other institutions and organizations that could assist them.

2.3 Who Applied for Help?

MAGEN received requests from people living in the community with various types of disabilities: physical (varying degrees of limb disabilities), medical (organ transplants, artificial respiration, oncologic treatment), sensory (blindness and deafness), mental-health, and cognitive disabilities. Most requests came from people with disabilities who lived with family members (e.g. parents with disabilities who lived with their young children, or parents whose children had disabilities) and the rest were single.

Many people who requested assistance from MAGEN had been in contact with welfare authorities prior to the war; most of them were families whose children had disabilities. However, there were also requests from people with disabilities who had lived completely independently until the war and had not previously needed assistance from welfare institutions.

2.4 Dilemmas, Decisions and Consequences

Two of the major dilemmas, which the partners had to cope with while planning the project's scope reflected a conflict between two basic approaches: maximal inclusion versus restricting the project's target population.

The original target population of the advocacy NGO that operated the project included all disabilities (Sever, 2008). Together with the JDC partner, this NGO wanted MAGEN to adopt its inclusive definition of (a) who's a person with disabilities (= anyone who has any condition that impairs one or more of his/her major functioning) and (b) who's eligible for assistance, especially for respite (= the disabled person together with his/her family and/or caretaker).

A different view was presented by the Welfare Ministry's representative. This partner opted for a more restricted definition of the target population, recommended that only the disabled persons themselves be eligible for respite, and warned that inclusion of families and lack of prioritization would result in a gap between the willingness to acknowledge everybody's needs and the project's capability and limited resources to actually cater to all of them. If the project is unable to provide respite for all, he argued, it would be unreasonable that the family members of one person with disabilities get respite instead of three other individuals with disabilities.

The partners resolved the dilemma by taking the following decisions: 1- the project's target population was defined broadly and included for example also mental and cognitive disabilities, people with medically-induced disabilities such as cancer patients, patients with artificial respiration, etc. 2- Nuclear families (i.e. parents and minor children of the disabled) were accepted in the respite. These decisions had serious implications for the nature of the project activities and the project's overall effectiveness.

2.5 Implications of Catering to all Disabilities

Beside obvious humane merits, the inclusion of all kinds of disabilities created a semi-chaotic reality in the respites and bore implications, which the project hadn't taken into consideration and hadn't prepared for.

The hosting hotels were caught completely unprepared for having so many people with such a diversity of disabilities, all at the same time. *"Wow! - So many wheelchairs in the lobby!!"; "One wheelchair in the hotel (in regular times) stresses the staff; now 12-13 wheelchairs!"; "It's unnerving to see such harsh sights, like little children with muscular dystrophy in wheelchairs"* were some of the responses (Sever 2007:30-32).

They were even less prepared for the diversity of difficulties and disabilities of these special guests, who were added to the regular clientele of the hotels. The various disabilities yielded needs and problems that were not anticipated in advance and almost overwhelmed the very dedicated but very few representatives of the project at the hotels.

Disabled people left their homes in a hurry and arrived at the hotels unprepared for staying. Some came alone, unaccompanied by a very needed caregiver; lacking any personal equipment: no extra clothing (thus a problem of washing emerged, while no launderettes were to be found in the hotel or nearby); no money, no vital medication, no prescriptions and no magnetic healthcare cards ; etc.

Furthermore, the hosting hotels had to cater to people with disabilities as well as to "regular" evacuees. Some of the latter were apprehended or even disgusted and complained to the hotel managers that they had come to relax, not to be exposed to such harsh sights.

And there were the volunteers. Many people were offering to volunteer during the emergency; and there was indeed a great a need for volunteers who'd assist people with such a vast variety of

impairments. The problem was to coordinate between demand and supply. This required building a data base of volunteers - their abilities, availability and limitations (e.g. a religious woman who wouldn't touch a blind male person); matching it with a data-base of the clientele; and properly assigning volunteers to the various roles. The organizational and logistic tools needed for such a task were unavailable at the project. There were also problems of turnover and dropout of volunteers, which made the investment in their instruction worthless.

2.6 Diversity of Disabilities – the Scope, the Meaning and Some Illustrations

In order to grasp the scope of the potential diversity and understand its implications, it's worthwhile to take a quick look at NFPA guide's (op.cit) description of the main categories of disabilities, and at some illustrative examples from the reality of the project.

2.6.1. *People with mobility disabilities* may use one or more devices, such as canes, crutches, a power-driven or manually operated wheelchair, or a three-wheeled cart or scooter, to maneuver through the environment. Typical problems of people who use such devices include maneuvering through narrow spaces, going up or down steep paths, moving over rough or uneven surfaces, using toilet and bathing facilities, reaching and seeing items placed at conventional heights, and negotiating steps or changes in level at the entrance/exit point of a building.

Illustrations from the project:

The accessibility needs of people in wheelchairs created a complex issue for the hosting hotels: allocating them rooms that are not far from the elevator and the dining room (moving on rugs is difficult in a wheelchair); providing higher legged tables at the dining room for the wheelchairs to get under them; wide doors at the entrance to the room and inside it (entrance to bathroom); showers (not baths), toilet adjustments, facilities inside bathrooms etc.

Incident: a woman in a wheelchair couldn't enter through the narrow bathroom door in her hotel room. She improvised a solution: Every morning she took her towel and toothbrush and wheeled herself to the dining-room's accessible toilets. Until she was told by the dining-room's attendant that this practice was discomforting the "regular" guests. ...

2.6.2. *People with visual impairment* have partial or total vision loss. Some can distinguish light and dark, sharply contrasting colors, or large print but cannot read small print, negotiate dimly lit spaces, or tolerate high glare. Many people who are blind depend on their sense of touch and hearing to perceive their environment. For assistance while in transit, walking, or riding, many people with visual impairments use a white cane or have a service animal.

Illustrations from the project:

Blind people arrived at the hotels with their service dogs, which needed to be walked outside three times a day. People (including the staff at the hotel) didn't know that for service dogs to be able to focus on their job they shouldn't be handled or fed while on duty. These are very likeable dogs, and people used to pet them, gave them food.

An injured blind person came in with his service dog which was also injured and became hesitant and disoriented, unable to respond correctly to orders (instead of "right" went forward etc).

Blind people needed to be accompanied to places in unfamiliar surroundings. A blind person who had ear pains needed to go to a clinic, but no volunteer was available to accompany him. In a self-service dining room a blind person needed to be led to the buffet, but the volunteer assigned to help him was a religious woman who refused to lead him by his elbow because she wouldn't touch him.

2.6.3. *Hearing Impairments:* People with partial hearing often use hearing aids, which amplify and clarify available sounds. Echo, reverberation, and extraneous background noise can distort hearing aid transmission. People who are deaf or hard of hearing and who rely on lip reading for information must be able to clearly see the face of the person who is speaking. Those who use sign language to communicate may be adversely affected by poor lighting. People who are hard of hearing or deaf may have difficulty understanding oral communication and receiving notification by equipment that is

exclusively auditory, such as telephones, fire alarms, and public address systems. There is a risk that a person with a hearing loss or deafness would miss an auditory cue to the location of a dangerous situation, affecting his or her ability to find safe egress.

Illustration from the project:

At the hotels, a sign-language translator was not always available. This was especially problematic for immigrant deaf people who couldn't use written communication in Hebrew.

2.6.4. Speech Impairments prevent a person from using or accessing information or building features that require the ability to speak. Speech impairments can be caused by a wide range of conditions, but all result in some level of loss of the ability to speak or to verbally communicate clearly.

2.6.5. Mental and Cognitive Impairments prevent a person from using or accessing building features due to an inability to process or understand the information necessary to use those features. Cognitive impairments can be caused by a wide range of conditions, including but not limited to developmental disabilities, multiple sclerosis, depression, alcoholism, Alzheimer's disease, Parkinson disease, traumatic brain injury, chronic fatigue syndrome, stroke, and some psychiatric conditions, but all result in some decreased or impaired level in the ability to process or understand the information received by the senses.

Illustrations from the project:

Parents of deeply retarded children couldn't cope with them by themselves 24/7 at the respite. To relieve them by occupying these children for 4-6 hours a day, volunteers were needed who had a background in special education.

People struggling with mental-health disabilities created dramatic scenes and acute problems in the hotels, thus draining the limited time resources of the projects' tiny staff. The need for a steady and permanent presence of mental health professional was only recognized gradually and not fully answered.

Incident: one day a woman entered the hotel lobby - a single mother with an autistic child and his grandmother; all three were extremely anxious. The mother and son were hitting the grandmother, the woman hit herself, and all three were screaming at the top of their lungs. In the lobby. The hotel manager demanded that they be thrown out immediately. No psychiatrist was present at the hotel or available by phone, and the project's representative spent the better part of one and a half hour trying to cope with the situation.

2.6.6. People with Ambulatory Mobility Disabilities can walk but with difficulty or do not have full use of their arms or hands or lack coordination. They may use crutches, canes, walkers, braces, artificial limbs, or orthopedic shoes. Activities that may be difficult for these people include walking, climbing steps or slopes, standing for extended periods of time, reaching, and fine finger manipulation (e.g. of door locks or latches) .

People with Respiratory Impairments may have difficulty safely moving around due to dizziness, nausea, breathing difficulties, tightening of the throat, or difficulty concentrating.

Temporary impairments: In addition to people with permanent or long-term disabilities, there are others who have temporary conditions that affect their usual abilities. Broken bones, illness, trauma, or surgery can affect a person's use of the built environment for a short time.

Diseases of the heart or lungs, neurological diseases with a resulting lack of coordination, arthritis, and rheumatism can reduce a person's physical stamina or cause pain.

Other disabilities include multiple chemical sensitivities and seizure disorders. Reduction in overall ability is also experienced by many people as they age. People of extreme size or weight often need accommodation as well

It is not uncommon for people to have *multiple disabilities*.

Illustration from the project:

A man in a wheelchair, who suffered from incontinence, used to urinate all over the place and caused great discomfort for the surrounding people.

2.7 Respite for Disabled People Alone or Together With Their Families.

The main reasons for satisfaction indicated by the project's clients were: that they were able to leave their homes and that arrangements were made for them of a place to stay; that the project's response was prompt, that they were treated well, and the project's staff were attentive and understanding. The main reasons indicated for dissatisfaction were that no one provided assistance and/or enabled them to leave their homes, and/or that no one responded to their request.

The decision to accept in the respite not only disabled individuals but also their family members reflected the project's community-based perception of its target population. It also reflected a gross overestimation of the scope of suitable accommodations that the project would be able to provide at that time. The reality was that the project provided respite for some 1,820 people with disabilities and their families, and most of them (84%) were happy with what they got; but they were only about 30% of the people who registered requests, while many others were left behind, bitter and frustrated.

The data also show that the project seems to have been more successful in providing solutions for clients who belonged to the (Hebrew speaking) Israeli majority than to those who belonged to the (Arabic speaking) Israeli minority: 66% percent of the former were given respite in hosting facilities, vs. only 16% of the latter. Furthermore, 42% of the former vs. 28% of the latter were satisfied with the prompt response of the project; and a similar difference was found in the general satisfaction of the clients from their connections with the project: 45% vs. 20%. (Sever 2007).

3. DISCUSSION

The subject of this research was a project aimed at catering to the needs of disabled people in an emergency that had been created by conditions of war. Many of its findings are congruent with those of researches based in other emergencies, and they further elaborate and illustrate them. What's more, the research highlights several issues that are relevant for attempts to assist disabled people in other emergencies as well, earthquakes included.

Clearly, the bombarded communities were caught unprepared in summer 2006. The collapse of services for, and support networks of people with disabilities, echoes White et al 's (2007) findings that damage to CILs' facilities and equipment during the Katrina storms hampered their efforts to respond to people who requested assistance. So are also the findings about the difficulties that the project's personnel experienced in meeting the independent living needs of people with a vast diversity of disabilities, including medication and durable medical equipment, accessible housing and transportation, accommodating caregivers and service animals, etc.

The finding that prolonged hosting of families with disabilities at volunteers' homes yielded strains and various problems, is similar to another finding of White et al. (2007), that "... the significant amount of time which persons with disabilities displaced by the disaster stayed with extended families, [resulted in] physical, emotional, and financial stress placed on them and their families." (op.cit. 12).

Other findings reflect Takahashi et al's (1997) description of the vulnerability of people with cognitive (here also mental) disabilities when services are disrupted by a major emergency, and their findings about the rejection of these people by "normal" evacuees at the refuge.

Beside complementing findings of previous researches, the present study highlights a few issues that have not gained ample consideration, if at all, in the existing literature.

One is the issue of people with personal disabilities who are immigrants, and/or or belong to a linguistic or other minority group. This deserves special attention in future research of emergencies and in future emergency planning, since the existence of language and/or cultural barriers might impede proper assistance to these people during and after the emergency.

Second - the issue of volunteers. Literature about volunteers in emergencies does exist, even some research on volunteers at earthquakes. A recent example is Zhang et al's (2011) study of the physical and mental health symptoms suffered by the volunteers in an emergency relief task during the 2008 Wenchuan earthquake. But the present research seems to be the first to highlight issues of managing and coordinating volunteers in face of a highly diversified target population of disabled people.

And last but not least - issues of prioritization. Since the existence of different categories of disabilities requires a vast variety of provisions during emergencies, the study's findings call attention to implications of an all-inclusive definition of an emergency service's target population, when professional and financial resources are limited.

ACKNOWLEDGMENT

The author is grateful to lieutenant colonel R. Peltz of the IDF Homefront Command for sharing with her what they knew on the subject of this paper

REFERENCES

- Alexander, D. (2008). *Helping Disabled People in Emergencies*. <http://emergency-planning.blogspot.com/2008/07/helping-disabled-people-in-emergencies.html>
- Fu, K., White, J., Chan, Y., Zhou, L., Zhang, Q. and Lu, Q. (2010) 'Enabling the disabled: media use and communication needs of people with disabilities during and after the Sichuan earthquake in China', *Int. J. Emergency Management*, Vol. 7, No. 1, pp.75–87.
- ILRU Directory of Centers & SILCs--2012 (Vol. 34) <http://www.ilru.org/html/publications/directory/>
- NFPA. *Emergency Evacuation Planning Guide for People with Disabilities*, www.nfpa.org
- Phillips, C., Estey, S. & M. Ennis (2010) Still invisible: Persons with disabilities in post-quake Haiti. *Reliefweb*, 7.4.2010: <http://reliefweb.int/node/350699>
- Phillips, C. (January 2011) Reaching the "cocobai": Reconstruction and persons with disabilities in Haiti: Policy paper. *Focal* : <http://www.offnews.info/downloads/FocalCocobaiEN.pdf>
- Sever, R. (April 2007). *MAGEN Project – Flexible Response for People with Disabilities in Time of Emergency: Research Report*. (Hebrew). Jerusalem: JDC Israel, the Unit for Disabilities and Rehabilitation; Israeli Human Rights Organization of People with disabilities; ASHALIM; & United Jewish Communities.
- Sever, R. (2008). A Temporary double essentiality? A case study of an advocacy NGO operating a service during a period of emergency . (Hebrew). Paper presented at the 11th Spring conference of the Israeli Center for Research of the 3rd Sector, Ben Gurion University, Be'er Sheba: 12.3.2008
- Rahimi, M., (1993) "An Examination of Behavior and Hazards Faced by Physically Disabled People During the Loma Prieta Earthquake" in *Natural Hazards*, Vol. 7.
- Reinhardt, J. D., J. Li, J. Gosney, F. A. Rathore, A. J. Haig, M. Marx, and J. A. Delisa (2011). Disability and health-related rehabilitation in international disaster relief. *Global Health Action*. Vol. 4: 7191 - DOI: 10.3402/gha.v4i0.7191. Published online 2011 August 16
- Takahashi, A., K. Watanabe, M. Oshima, H. Shimada and A. Ozawa. (1997). The effect of the disaster caused by the great Hanshin earthquake on people with intellectual disability. *Journal of Intellectual Disability Research*.
- Tierney, K. J., Petak, W. J., and Hahn, H.(1988), *Disabled Persons and Earthquake Hazards*, Institute of Behavioral Science, Boulder.
- U.S. Department of Education (2008), *Emergency Management Research and People With Disabilities: A Resource Guide*, Washington, D.C. <http://www.ed.gov/rschstat/research/pubs>
- White, G. W., Fox, M. H., Rooney, C., & Cahill, A. (2007). *Assessing the impact of Hurricane Katrina on persons with disabilities*. Lawrence, KS: The University of Kansas, The Research and Training Center on Independent Living.
- Zhang, W. Q. et al (2011). Physical and mental health status of soldiers responding to the 2008 Wenchuan earthquake. *Australian and New Zealand Journal of Public Health*, Vol. 35 (3), June 2011: 207–211