

Dealing with Environmental Disaster: The Intervention of Community Emergency Teams (CET) in the 2010 Israeli Forest Fire Disaster

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Abstract

In December, 2010, a large forest fire broke out in the Carmel Forest in Israel near the city of Haifa and spread throughout the communities of the Carmel Seashore Regional Council. The fire left forty-four casualties and thousands of square kilometers burned. This paper describes the effective performance during the fire of Community Emergency Teams (CET) established and trained during the previous year in residential areas, to be ready to react in any community emergency, whether security situation or natural disaster. The CETs were organized according to a community preparedness model developed by the Community Work Service of the Ministry of Welfare to provide an immediate local response until official forces arrive at the scene. CETs alerted and enlisted residents, provided information, and guided them through evacuation as well as taking care of private and public property and participating in fighting the fire. The success of CETs is due to three identifiable stages: First, volunteer training and preparation to gain personal and community resilience. Second, cohesive and organized action taken by the CETs during the four day blaze. Third, the recognition and reinforcement gained by volunteers and residents at the community level. It is suggested that the model be applied to as many communities as possible for a fast suitable reaction in any type of emergency situation in Israel.

Keywords: Community Emergency Teams (CET), environmental disaster, Israel

1. Introduction

In many Western countries, emergency teams, traditionally include a mixture of state, municipal, profit and non-profit voluntary workers. Although these emergency teams are vital first responders to local and national disasters, it can be argued that they lack standards, and are ineffective and inefficient (Yanay, Benjamin & Gimmon-Yamin, 2011). Building effective emergency teams is the main mission of both local and national authorities (Drabek, 2006).

Local communities are less often seen today as helpless victims needing outside assistance. In fact, local involvement and community capacity are increasingly recognized as a vital first line of defense in disaster mitigation, response, and recovery (Flint & Brennan, 2006). The idea of a civilian being self-sufficient following disasters is not a new or unique phenomena. The use of civilian volunteers in Europe during World War II was widespread. The system used then even identified different levels of response such as first aid, fire defense and gas defense. The continued use of civilian volunteers for CETs is still prominent in European nations today (Orloff, 2011).

Simpson (2001) indicates that since first appearing in Los Angeles, California in 1985, Community Emergency Response Teams (CERT) have grown from being found in a small number of communities to over 139 programs present in 26 states. However, they were originally designed to respond to a variety of local emergencies and serve as a broad-based conduit for community development and civic engagement (Flint & Brennan, 2006). Over the years, most groups have gone beyond a focus on a single hazard and now prepare the citizenry for multiple hazards and emergencies (Simpson, 2001). Today for example, the US CERT mission is to educate people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills,

such as fire safety, light search and rescue, team organization, and disaster medical operations. The CERT members also are encouraged to support emergency response agencies by taking a more active role in emergency preparedness projects in their community (<http://www.citizencorps.gov/cert/>).

To be effective in developing community capacity, Flint & Brennan (2006) suggest that CERTs must: a. Involve diverse groups of residents and ensure balanced community representation; b. Get back to basics – CERTs have lately focused almost exclusively on major natural disasters and terrorist acts; c. Update training: Community development and civic engagement training should be the cornerstone of all CERT programs; d. Expand the view of what constitutes a disaster: rapid economic decline or environmental change can also be disastrous for rural areas. This case study is about the performance of an Israeli Community Emergency Team (CET) (TZAH"l in Hebrew) in a national disaster in Israel.

In December, 2010, a large fire broke out in the Carmel Forest near the city of Haifa due to negligent teenage behavior. Strong easterly winds kept blowing for several days and the fire spread rapidly to the adjoining twenty-four communities of the Hof HaCarmel (Carmel Seashore) Regional Council located in the southwest area of the Carmel. The fire also threatened two Druze villages (Daliat El-Carmel and Ousfia), the city of Tirat Ha-Carmel and the city of Haifa; all of which surround the Carmel Forest. The fire caused forty-four casualties and left thousands of square kilometers of forest burnt. Much has been written and will continue to be written regarding the lack of preparation in dealing with such a mega-disaster by governmental and local factors. In June 2012, the Israel State Comptroller published the official report regarding mistakes committed by official bodies during the fire and the lack of preparedness of the local regional councils in responding to such a disaster. On the other hand, it cited the action taken by the Community Emergency Teams that responded to the fire's menace at the local community level as being efficient and effective. The Community Emergency Teams' volunteers were trained by the Welfare and Security Departments of the Hof Ha-Carmel Regional Council during the year previous to the fire to be able to react to any unforeseen emergency situation.

This paper describes the effective performance of these Community Emergency Teams. The main objective was to create a team of trained volunteers in each community, communities to be able to react properly and locally in any community emergency, whether a security situation or natural disaster. The CETs were organized according to a community preparedness model developed by the Community Work Service of the Ministry of Welfare in 2002 (Community Emergency Team-TZAH"l, 2002) and updated in December 2006 after lessons learned during the Second Lebanon War regarding population panic reaction in several cities, towns and neighborhoods. According to the model, CETs should be ready at all times to give an immediate local response to any crisis situation assuring the proper response of the community until official forces arrive at the scene.

The relative success of these teams is due to three identifiable stages. First was the training and preparation of CET volunteers to gain personal and community resilience through a relatively intense course. Second stage was their cohesive action during the four day blaze. The third stage was the reinforcement of recognition and resiliency at the community level. Constructive conclusions were reached by the different teams that participated in the fire in an organized and synchronized manner. The civilians and especially the volunteers came out more confident and succeeded in increasing personal and community resiliency. Therefore, it is suggested that the model be applied to as many communities as possible for a fast and suitable reaction in any type of unexpected emergency situation in Israel.

2. Background to the Forest Fire Event

The Hof Ha-Carmel Regional Council is comprised of twenty-four communities in an area of 190,000 dunam. It was established in 1951 and today numbers up to 26,000 inhabitants. It is located along the Mediterranean seashore, south of the city of Haifa and extends up to the ancient city of Caesarea. It includes ten Moshavim (agricultural communities), nine Kibbutzim (cooperative communities), one artists' village, two Druze villages, one Arab village and two Cities.

The CETs in the Hof Ha-Carmel Regional Council were established as a consequence of different disasters and emergency events that occurred in Israel in general and in the area comprising the Regional Council in particular, according to a model developed by the Ministry of Welfare. An important consideration to be taken into account while working with volunteer teams is the need for constant training and reinforcement of their abilities and motivation. Therefore, a refresher course of ten meetings was proposed to refresh knowledge and skills of the existing and new volunteers of the CETs in Hof Ha-Carmel communities. Out of the twenty-four communities in Hof Ha-Carmel, sixteen participated in the program by sending their CETs members to the course in November 2009 (about a year before the fire).

During the Carmel forest fire, several CETs operated throughout all stages of the fire. They alerted and enlisted residents, provided information on possible evacuation and guided them as needed. They also took care of private and public property of evacuated communities and some teams even participated in fighting the fire to prevent it from reaching their own houses.

2.1 The CET Model

The Community Emergency Model is simple and flexible enough to be adapted to the needs and resources of each community. The flowchart presented below (see Figure 1) is the basic model suggested by the Ministry of Welfare project (Ministry of Welfare, 2001), which could be made flexible to suit a local CE Team. The team is led by the chairperson who is selected by the initiators of the program according to past experience, organizational skills and community status. The chairperson coordinates the team at headquarters, which should be located at a central building in the community, preferably in a bomb-protected shelter. This team is made up of the vice-chair who assists the chairperson, a secretary and at least one or two other team members. It is highly recommended that the Public Communication & Information Team join headquarters so as to be able to provide and impart messages to the community. The tasks performed by the chairperson and the team at headquarters are to: direct the actions and responses to be taken by the CETs until official forces arrive; help official forces in the field during the emergency event; collect information in order to receive an accurate picture of the situation and be able to coordinate the CETs and the official forces during the event in the community.

The Security Team is usually made up of people with past military experience. They should be able to carry weapons and use them in case of a terrorist attack. Therefore, they have to be able to respond in an organized fashion as soon as the event starts until police or military forces arrive. The Security Team is therefore in charge of saving as many lives as possible by reacting properly to the threats and by providing the required information to incoming security forces. They are also responsible for providing personal and community security to members of the community and preventing private property from being looted or damaged by others.

The Health Team is made up of health related professionals such as doctors, nurses and trained first-aid providers. They are responsible for taking care of the wounded in the event scenario, for being in contact with first-aid ambulance services (“Magen David Adom”) and hospitals if needed, in addition to providing medical assistance to chronically-ill patients and to those receiving long-term medical care inside or outside the community. Finally, they are in charge of helping to identify the dead, if any, and to guide families of victims through the needed procedures and arrangements.

The Logistics Team is primarily responsible for the provision of basic needs: water, food, electricity generated by local electrical units, transportation and heavy-duty equipment. Therefore, they should have updated lists and maps of existing community resources. The volunteer members of the logistic teams should be able to drive trucks and operate tractors and cranes. They are in communication with headquarters, but they usually stay outside in the field where their help is required.

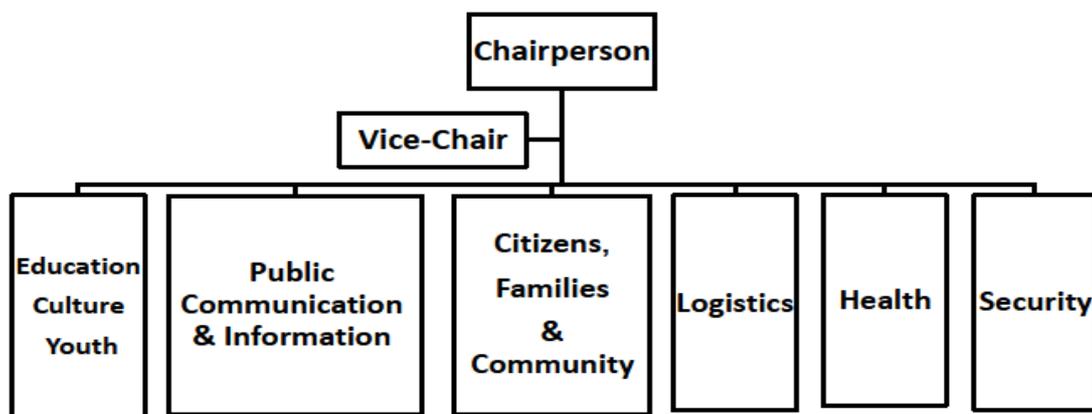


Figure 1. Community Emergency Team – Organizational Flowchart

The Public Communication & Information Team is the eyes and ears of the community in any developing emergency. The team usually shares headquarters with the team chairperson in order to receive and transmit information immediately. The team should have access to as many mass communication channels as possible such as closed-circuit television (CCTV), local radio, phone systems, mobile telecommunication technology and internet access to social networks, web sites and databases. The team members should be trained to transmit information in a calm and clear way even when the news is horrific. The two main goals of the team are to become the source for accurate information and to maintain high moral and motivation in the population in order to cope with the situation. Furthermore, the team should be ready to distribute accurate reports to local, national and international news channels.

The Citizens, Family & Community Team is in charge of providing help to residents not only during the emergency, but also in the long-run. Therefore, the team has to map the population according to both home location and special needs. The team has to be acquainted with the local welfare departments and the actions to be taken by them in emergencies. In many cases, they have to be able to contact the Social Security Institute in order to help the injured population receive their services. This team should also be ready to provide distracting activities for the population under stress and help them relax through different stress-coping techniques and activities. Social workers, psychologists and related professionals are to be members of the Citizens, Family & Community Team.

The Education, Culture and Youth Team is directly in charge of toddlers, children and youth of the community. Naturally, the team will be made up of kindergarten teachers, schoolteachers, and informal education practitioners. They should be prepared to provide proper responses according to the ages and needs of the children. During a short-term event, they will try to help the children cope, to express their feelings and ease stress. During a long-term event, they will be responsible for maintaining calm among the young population and providing them with proper educational and recreational activities.

The CET Model was presented to the elected leaders of each of the twenty four communities in the Hof HaCarmel Regional Council. Sixteen communities agreed to participate in the capacitation program which was launched in November 2009 and ended in July 2010.

2.2 The Community Emergency Teams Training Course

In the Community Emergency Team's training course, delegates from sixteen communities in Hof HaCarmel were represented mainly by the chair and vice-chair of each team. The course consisted of ten meetings of an hour and a half every two to three weeks and a three-hour concluding exercise. The themes covered during the course were: personal, family and community resiliency; definition and treatment of stress and anxiety in crisis events; rules and procedures in quiet routine times and in emergency events; preparation and updating of CET files; CET responses to different types of emergency events; planning of the CET course concluding exercise.

The training course ended in an exercise that took place in May 2010, in which representatives of twelve out of sixteen CETs that took part in the course participated. Many of them were representatives from villages that later had to activate their CETs during the fire. The goal of the exercise was to check the CETs' preparedness to respond to any emergency according to the planned procedures. For that purpose, a fictitious massive bus accident was staged and the chairpersons and vice-chairs of each team had to contact and impart instructions to their team's members according to Security Department messages sent to their mobile phones. The exercise was begun with an SMS message and the chairpersons received new instructions every twenty minutes to activate their local volunteers in the six different categories of the CETs. The information compiled from every CET during the exercise was summarized for each settlement in a Microsoft EXCEL files (see Table 1). The exercise had good results. There was a successful response from the volunteers at the team level. Without knowing it, these teams were by then ready for the real action during the Carmel fire.

Table 1. Exercise data recollection file

Name of settlement _____	Chair	Vice-chair	Security Team	Health Team	Logistics Team	Citizens Family Community Team	Public Communication & Information Team	Education Culture Youth Team
Time the message was sent _____								
Task 1 Time done								
Task 2 Time done								
Task 3 Time done								
etc....								

3. The Carmel Fire Events from the CETs Perspective

The day the fire started, the Security Officer of the Hof Ha-Carmel Regional Council ordered the local CET of Kibbutz Beit Oren to evacuate their population. During the four days the fire lasted, the Regional Council evacuated another seven communities - four thousand residents in total were evacuated from their homes. No casualties were registered among the Hof Ha-Carmel Regional Council citizens although there were some people with respiratory complications due to the heavy smoke that engulfed the whole area. In four of the seven evacuated communities, the CET coordinated the evacuation. In Nir Etzion for example, the CET, together with forty-five volunteers, remained in the Kibbutz fighting the fire and managed to save both buildings and animals from the fire. The CET was well prepared with lists of the population and their special needs. Accordingly, each evacuated family or individual with special needs was registered and properly accompanied by a family member or volunteer. Another example of good practice was Moshav Megadim which was also evacuated according to the CET model. Whole families and the elderly were transferred to temporary shelters in safer areas. Also, in Kibbutz Ha-Hotrim the CET took care of the population and helped them to evacuate based on previously composed lists. The logistics team fought the fire and the security team insured that no damage was caused to the empty homes. Preparedness during routine times proved its worth communities.

In those communities where CETs existed and were ready to act, evacuation was easier and much less traumatic for the population (The Comptroller Report on the Carmel Forest Fire, 2012). According to the report, the exercise that was held in May 2010 by the CET at the Hof Ha-Carmel Regional Council properly trained the teams to be ready to act (p. 432). The Comptroller concludes that:

"...the establishment of Community Emergency Teams is important and effective. It is expected that the Council and the local committees will promote the training of and exercises for the CET in their jurisdiction and will provide the proper resources needed to fulfill their role in the best way possible" (pp. 433).

There were four additional evacuated areas in which there were no CE Teams: two boarding schools, where the directing team and teachers took care of the students' evacuation, and an artists' village in which no volunteers were found, and an Arab village that took care of the children, women and elderly by evacuating them to relatives' homes in other towns, while the men stayed to fight the fire and save their property.

During the Carmel forest fire, six communities, two boarding schools and two hotels were evacuated. The CETs were encouraged by the police to leave their communities during the conflagration, but they refused and united to save their homes and property from the blaze. The Comptroller suggests that the Hof Ha-Carmel Regional Council, with its varied communities and institutions were properly organized for the evacuation and concludes:

"In light of the actions taken by the CETs helping in the evacuation of the population and in fighting the fire, the Comptroller Office believes that the Ministry of Internal Security, Israeli Police and the Fire Fighters should examine the way in which to cooperate in times of emergency" (pp. 441).

4. Discussion

Emergency situations happen everywhere, all the time. Emergencies may be caused by natural disasters (fires, earthquakes, floods, climate events, tsunamis, etc.), by security related events (war, terrorist attacks, missiles and so on) or by human related accidents (railroad accident, ecological disasters, massive contamination of soil and water, atomic reactor leaks etc.). If an unexpected emergency event is always expected, communities would be prepared to deal with any event whatsoever. The concept of a "culture of preparedness" (Reut Institute, 2009) was proposed to explain how to gain resiliency at all levels of the population.

A culture of preparedness entails the creation of a conscious constant expectation of crisis situations at anytime and anywhere for an individual, family, community, and even the entire nation. The culture of preparedness leads to the development of personal, familial and community resiliency at all levels. The CETs that participated in the training course prepared themselves, without knowing just how soon they would use it, for competent performance during the Carmel forest fire. Their personal and group resiliency attained during the course allowed them to act properly during the days of the fire and to return to routine life after it without post-traumatic symptoms.

During the fire, the CET of the Hof Ha-Carmel Regional Council were mainly involved in various activities that were in part pre-planned and in part implemented according to the particular needs of the situation at the time:

- Alerting and enlisting the citizens: In those communities where the fire burned part of the houses and in those communities in which the smoke made breathing difficult, the CETs operated according to pre-existing lists of the population, mobilizing and referring them to secured shelters, alternative community centers or family homes in other towns
- The CETs provided information on possible settlement evacuation and updates on situational developments in those communities in which the fire had not yet reached.
- Arranging the evacuation procedures according to the prepared plan. The Hof Ha-Carmel Regional Council bus fleet which normally transports children back and forth to school took a central role in evacuating the population during the fire. The logistics and the community teams worked together in this endeavor.
- Remaining in contact with the people who were evacuated to other towns. It is not enough to evacuate the population, it is also necessary to be in contact with them wherever they may be. Four thousand people were dispersed and were in need of information and support. The CETs kept track of those who were allocated shelter outside their communities in order to help them fulfill their needs. After the fire was extinguished, the CETs had to communicate with the people in order to coordinate their return. In cases where the homes of the evacuated citizens were burned down, they were in contact with government offices in order to make long-term arrangements including compensation.
- Enforcing the security of private property of the evacuated villages. There was a need to prevent homes from being ransacked and/or looted in those communities and towns which were evacuated. The Security CETs were in charge of this.
- Fighting the fire near their villages. In 1998, there was a big fire in the Carmel Forest that burned down part of Kibbutz Nir Etzion. Ever since then, the Kibbutz has been preparing itself for the next fire. When the fire started in 2010, the CET activated the awaiting infrastructures achieving comprehensive and damage-free results. In other villages, the CETs volunteers worked day and night with very old fire trucks and improvised equipment attaining relatively successful results as well.

The success of CETs is due to three identified stages. First, the best solution for any unexpected threat is the training and preparation of volunteers through a relatively intense course to gain personal and community resiliency. The cost of the course is negligible compared to the high price paid by the country's economy after the fire. Therefore, the budget allocations for training the CETs would be the best investment in dealing with the next crisis.

Second, their cohesive action during the four days the fire was ongoing. Finely prepared teams create among themselves and in the community in which they live, a feeling of togetherness and mutual responsibility that provide the cohesion needed to confront crisis situations. Those groups of volunteers that stayed together while the fire lasted, were able to contribute to the rehabilitation and the return of calm to their villages.

Third, recognition and resiliency reinforcement at the community level was granted. After the fire, community members were psychologically compensated for their efforts by the appreciation and recognition of their neighbors. Those who participated in the firefighting or in helping the population strengthened their own resiliency and received proper recognition from all around.

4.1 Recommendations

The experience gained with the Carmel forest fire should be capitalized on and applied to other areas of the country preparing the population for the next unexpected challenges. The CETs fulfilled the goals for which they were founded. The Comptroller's Report clearly concludes that in those communities where they were activated material damage was tragic, but the population acted normatively. It is recommended that municipalities, regional and local councils and government ministries invest more resources in the training of volunteers as a way of saving endless expenses and citizens' lives. Therefore, practical recommendations are as follows:

- a. The establishment of training courses for CETs in every geographical area or community throughout the country (city, village, Kibbutz, Moshav, neighborhood etc.) should be mandatory. The Ministry of Welfare and Interior Security should be responsible for budget allocations and training courses.
- b. The communication network between CETs and official forces should be improved and updated for optimal functioning in emergency events. Highly developed technologies existing today allow for an excellent flow of information if planned and prepared in advance. Every member of a CET should be provided with a computer file which can be accessed from a desktop computer, laptop, disk-on-key and of course printed hard copy file. These files should be updated at least once every six months. In case of emergency, every member of the CETs should be able to open the file and start functioning anywhere.
- c. Logistics teams should be ready to support and provide equipment, infrastructure support and food to CETs members, to the general population in distress, and to security forces acting in the damaged areas. Their deep knowledge of the topography and the area is an asset when an emergency occurs. These teams should be trained to provide first-aid, basic firefighting support, and various logistic endeavors.
- d. Volunteers are a fluid resource. They come and go influenced by many life events and particular situations. Their readiness to carry out tasks depends on many factors such as their own work obligations, health situation and family roles. Therefore, constant recruitment of new volunteers and updating volunteer lists is a must. The updated lists should be ready and available for insurance and identification purposes. According to Israeli law, volunteers should be properly registered to receive National Security coverage while on duty.
- e. The national emergency situations which occurred in Israel during the last ten years clearly demonstrated that it is necessary to prepare the population to provide fast and efficient responses on a local basis. For that purpose, it is of maximum urgency to train and educate Community Emergency Teams as much as possible. The Carmel Forest fire and the tasks performed by the CETs served as a successful case-study. Government and national institutions should continue the creation, maintenance and skill development of CETs to be ready for any emergency event that may happen.

According to Flint and Brennan (2006), if the CET program is to be effective, it should be adaptable to different levels of organizational frameworks and should broadly represent the citizenry it is intended to protect and serve. CET's roles are helping rural communities prepare for disaster and building sustainable ability in those communities. If CET is to achieve its potential as a tool for community ability building, it must re-embrace its original focus on long-term preparedness and sustainability, promote broad-based community participation, and revamp its training materials to focus on developing community and civic engagement. At the regional level, community disaster management must move beyond the current emphasis on terrorism and national security, and current disaster policy must provide funds and expertise to rural communities in disaster mitigation planning. Also some of Simpson (2001) recommendations that can assist in the viability of the Community Emergency Response Teams (CERT) programs in the US are relevant in our case. In particular, policymakers should encourage the integration of CET into government emergency response plans and expand the utilization of these groups in non-emergency activities. Furthermore, the institutionalization at local/regional levels, government funding, local/regional "champions", having a large CET programs in the region and standardization of training and materials can improve the program and make it more effective.

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