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**Putting It All Together:
Integrating Ordinary People Into Emergency Response**

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Ordinary citizens may play an important role in the response to large or even small-scale emergencies. This however is often not recognized in the emergency plans and procedures developed by emergency services. As a consequence, the help of ordinary citizens is often underutilized or even rejected by professional responders. This article documents different ways in which ordinary people in industrial societies have taken part in emergency response to highlight the potential they bring to disaster response. It then suggests practical ways planners and professional responders can anticipate the assistance of ordinary people in the emergency response. These suggestions are partly inspired by the plans and procedures of the Amsterdam-Amstelland Safety Region, which are aimed at making better use of the competences of ordinary people during and after emergencies.

Keywords: Emergency Response, Ordinary Citizens, Resilience, Emergent Groups, Self-Resilience, Community Resilience.

Introduction

On July 31st, 1987, a tornado that stayed on the ground for one hour and five minutes and caused damage and destruction, injury and death along the East side of the Canadian city of Edmonton, Alberta, and neighbouring Strathcona County finally struck a trailer (caravan) park in the North-East corner of the city. The tornado tore apart some trailers leaving behind injured, dying and dead. Uninjured and injured survivors helped rescue many who needed assistance, put them in damaged and undamaged private vehicles and took them to nearby hospitals and clinics (Scanlon and Hiscott 1994).

The civilians who did the initial search and rescue helped save lives—the faster the injured get to a hospital the better their chance of survival. Only one of those rushed to a medical centre failed to survive. However, when the first emergency personnel arrived 21 minutes after the tornado struck, the Good Samaritans and the victims they assisted had gone. There was no one left to tell volunteer firefighters—the first trained emergency personnel to arrive—who had survived uninjured, who had been rescued, and who might still be trapped. The firefighters (and the police who came next) had to search to find where victims were trapped and then use their skills and equipment to rescue these more seriously injured. In short, because the ordinary citizens and the professionals worked separately—even though both performed valuable roles—the firefighters had to start from scratch when they arrived because they did not know what the civilian rescuers had done. As is not unusual, emergency planning had not anticipated massive help from civilian rescuers.

This article documents ways ordinary people, existing groups and organizations and emergent groups have taken part in emergency response and whether that has or has not been integrated into the response by emergency agencies. By highlighting the way ordinary people, existing groups and organizations, and emergent groups are self-reliant in emergencies and able to help others and assist professional emergency agencies, our goal is to demonstrate that their involvement can not only be of value but—with improvements in planning—can and should be integrated into emergency planning and response.

The problem is, of course, that research suggests that many emergency agencies and governments in western industrial societies are not prepared for the response by ordinary citizens during emergencies (e.g. Helsloot and Ruitenbergh 2004; Helsloot and Van 't Padje 2010; Perry and Lindell 2003; Voorhees 2008). That conclusion has been supported by data acquired from the 85 participants (professional responders from police, fire departments and medical services as well as representatives of the Red Cross, Salvation Army, Voluntary Medical Brigades etc.) at a workshop on resilience of

ordinary citizens in emergency response organized by the Amsterdam Amstelland Fire Department (the Netherlands) in 2010. That means emergency plans rarely take into account the way ordinary citizens attempt to help themselves and others, so the actions of ordinary people are still rarely associated with any part of emergency management response systems (Dynes 1994; Helsloot and Ruitenberg 2004). As a consequence, ordinary people, existing groups and organizations, and emergent groups are often underutilized or rejected during emergencies.

In our view, this is unfortunate for there are many ways that ordinary people can be involved in emergency response. They can, as in Edmonton, act as individuals without contact with emergency agencies. They can act as existing or emergent groups, again without contacting emergency agencies. They can act as individuals or groups with the awareness of, but without interference from, emergency agencies. They can act on their own or in groups, but their actions can be taken into account when emergency agencies develop plans. They can be co-opted by emergency agencies. They can initially respond on their own but be gradually integrated into emergency agency response.

These are important issues because the numbers involved may be phenomenal; a study of citizen response to the Mexico City earthquake found that 10 per cent of the population volunteered in some capacity—that means two million people (Helsloot and Ruitenberg 2004, p. 103). Given the inevitable lack of response capacity by professional responders in the first few hours of large-scale emergencies and the often unique (local) knowledge and valuable skills ordinary people possess, it would seem to be preferable if plans took into account the response by ordinary people and ideal if that response could be integrated into planning and response. In fact, the opposite is often true; emergency personnel often see themselves as the only competent responders and push ordinary people aside (Helsloot and Ruitenberg 2004; Perry and Lindell 2003). In addition, most often disaster plans generally approach the citizen as a helpless victim, who can only be helped by the appropriate services (Helsloot and Ruitenberg 2004, p. 110).

One way of improving the relationship between emergency personnel and ordinary citizens is “adaption”—adjusting emergency plans to accept that ordinary people will be involved (as they were in Edmonton) and writing plans that take into account their activities. Another would be “integration”—melding the already existing activities of ordinary citizens into emergency response so that the two are seamless. After outlining some options, this article concludes with some practical suggestions as to how planners and professional responders can use these two main principles (“adaption” and “integration”) in emergency planning and practice. To show that these ideas are not just untested theories, the article illustrates the possibilities by describing some of the plans and procedures developed recently by the Amsterdam-Amstelland Safety Region aimed at better utilizing ordinary people during and in the aftermath of emergencies.

Literature Review

Emergencies are often envisaged as site-specific events at which the traditional emergency agencies perform their normal functions. At an accident scene, for example, it is assumed firefighters will deal with toxic spills and heavy rescue, ambulance personnel will sort (triage) and treat the injured then transport them to appropriate medical centres, and police will control the scene and clear routes for emergency traffic. The entire response is by established organizations carrying out their regular tasks; and because of that these agencies see civilian involvement as unnecessary, and in fact unwanted. The reality is often very different. For one thing in a widespread destructive incident there is no well-defined site and site control is therefore impossible. For another, much of the initial response is not by emergency agencies but by those who happen to be there (Helsloot and Ruitenberg 2004). Often, as at the Edmonton trailer park, all the initial response including transport to medical centres is done by civilian survivors.

In *Organized Behavior in Disaster*, Dynes (1970) defines four types of organizational response to emergencies. He labels the first—established organizations carrying out regular tasks such as a fire department fighting a fire—as Type I. Then he describes three other types:

- Type II—expanding organizations with regular tasks. These organizations are most often the result of community or organizational planning. They exist on paper, and their cores exist prior to the disaster;
- Type III—extending organizations that undertake non-regular tasks; and
- Type IV—emergent groups that engage in non-regular tasks.

Dynes (1970, p. 138) says a Type IV organization could be an *ad hoc* group made up of a city engineer, county CD director, a local representative of the state highway department and a Colonel from the Corps of Engineers coordinating the overall community response during a flood. It could also be an emergent group, an organization that arises without official involvement or sanction—at least when it is formed—and may or may not get it later, such as a group of people who team to clear debris after a tornado (Zurcher 1968) or a continually changing group of volunteers who provide supplies for emergency personnel (Voorhees 2008). It can also be individuals working in parallel rather than as a group, as happened in Edmonton.

Obviously, one problem in emergency response is getting these various types of organization to work together effectively or at least to avoid working in conflict. Voorhees, for example, states “failure to plan for emergency volunteers could waste a valuable resource when such a resource is much needed” (Voorhees 2008, p. 12). Unfortunately, this is often the norm. Helsloot and Ruitenberg (2004) observed:

Up to this day, authorities have neglected the possibilities and advantages of citizen response. Most often, disaster plans generally approach the citizen as a helpful victim, who can only be helped by the appropriate services (p. 110).

Yet when ordinary people have had to cope, they have done very well. For example, on March 19-20, 1958, 800 persons found themselves trapped in a restaurant on the Pennsylvania Turnpike when snow made travel impossible. The travellers were a mix of races and ages and occupation but not a cross-section of society—many were young healthy truck drivers. Although there was ambulance present, there were no police or firefighters and the leadership role was taken by a physician, some military personnel, and some traveling salesmen.

The group did have communications with the outside world—the telephones were working—and the food supply proved adequate, although the restaurant did run out of bread. However, the emergent leaders arranged for the restaurant to be divided into areas—for example one part was set aside for child care, another for smoking—and assigned tasks to specific people. Once the turnpike was reopened, the group disbanded (Disaster Research Group 1958). The entire response though the short-lived emergency was handled by ordinary people.

Although there appears to be no literature on this point, researchers and experienced emergency workers agree that they are often surprised by those who assume leadership and do it well. In one small Canadian community, for example, one of the most effective responders was a man who usually spent his time in a bar. He stopped drinking until the emergency was over.

Acting Independently

It is now well-known that western communities are basically very self-resilient during and after large-scale emergencies. Even without involvement of professional responders, most citizens are well able to rescue themselves in times of (immediate) danger. Nevertheless some common assumptions of emergency services and governments (and ones that are often addressed in media coverage) are that citizens panic, become passive and misbehave (Dynes 1994; Perry and Lindell 2003). The first step towards incorporating ordinary people into emergency response is eliminating these assumptions by emergency personnel so they see ordinary citizens and groups as assets rather than irritants.

The Edmonton tornado, incidentally, is far from the only occasion when ordinary people have acted without contact with emergency personnel. For example, when an earthquake destroyed much of Tangshan, China and took an estimated 250,000 lives, Chinese scholars established that most of those who were awake when the earthquake struck in the middle of the night took protective action and survived (Yong et. al. 1988).

Similarly, when a damaged aircraft landed at Sioux City, Iowa in 1989, all emergency services had been notified and were standing by at the airport. But when the plane crashed and burned, all those who survived were out of the aircraft before waiting emergency personnel could reach the burning plane. Most got out through breaks in the aircraft frame; one dead-heading pilot escaped through a window.

Something similar happened after the crash of a Turkish Airlines Boeing 737-800 approximately 1.5 km before Amsterdam Schiphol Airport in the Netherlands on February 25th 2009. The passenger aircraft with 135 people on board crashed in a soggy field and broke into three pieces prior to crossing a motorway. Fortunately the wreckage did not catch fire. Most passengers escaped through the emergency exits and the breaks in the aircraft frame, including some of the most heavily injured. About 25 bystanders, most of them motorists rushed to the scene and helped passengers out of the plane and brought them to a neighbouring empty farm shelter (Scholtens and Groenendaal 2011). The less injured victims helped other passengers out of the wreckage and assisted those in the farm shelter. Some severely injured victims who could not be moved were encouraged by bystanders (“the ambulance will arrive within a few minutes”) who opened suitcases in a search for clothing to keep the victims warm. The bystanders then went back into the plane to search for travel companions of the severely injured victims. Only six living victims had to be rescued by the professional emergency responders. After the injured were cared for, a farmer with a tractor and wagon transported the dead over the soggy field (Scholtens and Groenendaal 2011).

In crowd crush incidents there is also evidence that people help each other even at risk to themselves. This happened in the Beverly Hills Supper Club fire near Cincinnati and it also happened when 96 persons were killed and 800 injured at Hillsborough, the home football stadium of the Sheffield Wednesday Football Club. Many who died in Hillsborough were trying to help others get over fence placed there to prevent what the British call a “pitch invasion”—spectators rushing out onto the playing field. (Security personnel unaware of the developing crowd crush were trying to stop people from climbing to safety.) There was also considerable helping behaviour in London when terrorists set off improvised explosive devices on three Underground trains and one bus. The trains were all in tunnels so the only persons who could respond immediately were on the damaged trains and neighbouring trains. Several passengers with first aid skills smashed the windows in their own car so they could help others. One person managed to fashion a tourniquet which helped save the life of a women who lost both legs.

In addition, public and private organizations can and often do make a significant contribution to the emergency response. During emergencies, some of these organizations adapt to the situation and carrying out regular tasks on a broader scale (Type 1 organization) or slightly change their regular tasks to fit with situational needs (Type 4 organizations). For instance, when Hurricane Ivan threatened New Orleans in 2004,

traditional religious organizations who normally provide assistance on a daily basis in churches and mosques reached out into the community to assist victims where they lived.

After the terrorist attacks on the World Trade Center in New York City on September 11, 2001, there was one of the most dramatic responses to an emergency by ordinary people, all operating outside the normal emergency management structure. It is estimated that many more than 200,000 people evacuated from Lower Manhattan by boat. Private craft, ferries, tugs all participated in this amazing achievement with no incidents or injuries. The US Coast Guard did not enforce normal regulations about passenger loads as the informal response took place (Kendra and Wachtendorf 2002; Kendra et al. 2003). There was a similar immediate unplanned response when a commercial plane crashed into the Hudson River.

At an earlier incident, when an Air Ontario flight crashed in deep snow near the airport of Dryden in Northern Ontario, a private citizen who lived near the crash site used his snow shoes to mark a trail in a wide circle around the crash site, thus making sure no dazed survivor would wander off into the bush without that being evident.

In addition to such improvisations, large-scale emergencies are often characterized by emergent behaviour in more informal groupings (Rodriquez et al. 2006). In the aftermath of Hurricane Katrina, for instance, the Disaster Research Center found instances of emergence in at least four neighbourhoods in New Orleans. As Rodriquez et al. (2006) noted, one group named itself the Robin Hood Looters.

The core of this group consisted of eleven friends who, after getting their own families out of the area, decided to remain at some high ground and, after the floodwaters rose, commandeered boats and started to rescue their neighbours in their working-class neighbourhood. For about two weeks they kept searching in the area, although some marooned families absolutely refused to leave their homes. At first they slept on the ground, and then in tents that others brought to them. They foraged for food and water from abandoned homes, and hence their group name. Among the important norms that developed were that they were going to retrieve only survivors and not bodies and that group members would not carry weapons (p. 61).

Ordinary People Co-opted

Although some emergency personnel have resisted co-opting ordinary people for emergency tasks, others have seen that as the obvious solution to a problem. In the wake of the Dryden air crash, for example, survivors made their way through the often deep snow from the crash site to a nearby road. When they did reach the nearby road, because none had winter clothing and some were cut and some dripping with aircraft fuel, the

Ontario Provincial Police (OPP) Sergeant decided he needed to get them to a warm place as quickly as possible. Consequently, he told passing drivers—at least one had followed the fire trucks—to put these people in their vehicles and take them to hospital. Since there was only one ambulance available and 49 injured survivors, this was the only way he would have been able to get them to hospital quickly (Scanlon et al. 1989).

Similarly, when the tornado struck Edmonton, most emergency vehicles were deployed to the Southeast corner of the city which was struck first. By the time the tornado reached the trailer park much further North, roads were flooded or blocked with debris and it was difficult to impossible for emergency vehicles to move. Seeing no other alternative, a Royal Canadian Mounted Police officer told a civilian driver to take some injured and bleeding victims to hospital. When the driver objected—saying they would leave blood all over his white leather seats—the officer told him that was too bad and he should do what he was told.

After a tornado struck Barrie, Ontario, hospital authorities assigned older women to staff the doors; the women were told everyone who wanted in had to be directed to the main entrance of emergency where they could be screened. Usually when emergency personnel are assigned to do security work they are reluctant to challenge police or firefighters especially if they are in uniform. The women however had no such qualms; they told everyone, no matter what credentials they carried, that they had to be checked. Similarly, when a building collapsed in Ottawa and police were worried about further problems, they recruited street cleaners—all wore the same plastic coats and all knew each other—as perimeter security.

Incidentally age need not be a barrier to an effective contribution in an emergency:

At my center in Katrina, best “psycho social” volunteer who was also an evacuee staying at the center was [an] 85 year old lady who swept the front of the center all day long, talking to everyone coming and going and singing amazing grace here and there, etc., kept saying, “The Lord will provide,” etc. Early on someone tried to convince her she worked too hard and to rest etc.! Smart manager before me saw she did crucial volunteer work!¹

There was major involvement of non-traditional organizations when scores of flights were diverted to Canada after the USA closed its air space on September 11, 2001. In Halifax, for example, the director of emergency social services—forced to find shelters for the stranded travellers—called high school principals to see if they could assist. The response was immediate and positive:

I spoke to a principal in one of them, he said, “No problem, this is what we do all day long, we herd kids, we feed them, we tell them where to go and what to do”. After that, logic and common sense took over. We got them

the food, delivered by Salvation Army and Fire department workers who so wanted to help, so how good was that...could talk for a book on—could talk for a book on what ordinary people did from all around the community in helping all those centers!²

In effect the schools and the emergency agencies went from Type I to Type II organizations; they were well-established existing organizations that took on new tasks. Similarly in Gander, Newfoundland, the fire department—instead of fighting fires—took over the job of organizing transport for stranded passengers from the airport to shelter.

There is also evidence existing non-emergency organizations will assist if asked. In Dryden, after the air crash the Ontario Provincial Police (OPP) discovered it needed equipment to provide power and light the crash site. These were made available by the local pulp mill. As the OPP made more requests, mill management began to wonder if they could provide the requested supplies and continue operations. After discussion, they decided they would shut down the mill rather than refuse any police request (Scanlon et al. 1989). A smelter in Nanticoke, Ontario, faced the same problem when 17 volunteer fire departments were involved in the response to a tire fire—14 million used rubber tires burned for 18 days—and so many of its plant staff were volunteers it was starting to run out of personnel. The company made the same decision as in Dryden; it would close its smelter rather than stop its employees responding to a major emergency (Scanlon and Prawzick 1991).

The response is not always immediate. After the 2004 Indian Ocean tsunami, a Norwegian firm, appalled by what was being shown on television, persuaded the Norwegian government to approach the Thai government and suggest that a morgue be constructed. Eventually it was agreed that the Thai Red Cross would accept the offer and the company, Normeca, quickly managed to assemble and equip a state of the art morgue. The structure was flown in from Slovenia and most equipment was acquired from local firms. Norwegian company officials showed local firms how they could adapt things they already manufactured to make them suitable for use in a morgue. Once the morgue was in place, it was run by police and forensic scientists from 34 countries who all reported to Thai authorities (Scanlon 2006).

Perhaps the most unusual response occurred in Canada in January, 1998, after an ice storm devastated Eastern Canada and parts of the United States. The Province of Ontario had changed municipal boundaries effective January 1st, a few days before the ice storm struck. Although elections had been held, the new councils had not met and had not even decided where the new municipal officers would be located. When Canadian Forces arrived to assist local governments, there was no local government to assist. Rather than take over and run the response, the military contacted local officials and persuaded them to agree on someone who could act for local government. Then they assisted that person (Scanlon and Kerr 1998).

Integrated Into the Response

Sometimes professional responders legitimate the immediate response by individual citizens, existing organizations and emergent groups by integrating that response into their own response. When Swissair 111 crashed into the Atlantic Ocean off Peggy's Cove, Nova Scotia, the first responders were fishermen who immediately headed out to sea to search for survivors. What they found was aircraft debris and pieces of bodies. (Only one body was recovered relatively intact.) Within half an hour, a Royal Canadian Navy ship arrived on scene. The ship contacted the fishing boats, asked them to line up so the area could be searched systemically using grid patterns, and told them to bring everything they recovered to her, not to shore. The navy ship then used helicopters to fly the recovered bodies and debris to an Air Force hangar in Shearwater. The fishing boats had started out on their own but were soon an integral part of emergency response.

There was similar cooperation when debris from an Air India aircraft fell into the Atlantic off the coast of Ireland. The area is, by agreement, a British search and rescue zone so overall control was with the British. But an Irish Navy ship coordinated the response by merchant ships and managed to find a Spanish-speaking merchant officer who was able to coordinate the response by Spanish fishing boats in the vicinity. The search was soon joined by Royal Air Force and US Air Force helicopters and by a life boat but, by agreement, all the bodies recovered were taken to Ireland and to the morgue at a hospital in Cork.

Neither the Swissair nor the Air India response was planned in the sense pre-incident plans stated that merchant ships, fishing boats, helicopters, and Navy ships should work together but it is an expectation that this will happen at sea. There seems to be a similar expectation when there is a flood threat. Several times when severe flooding occurred in the Red River Valley at or south of Winnipeg, Manitoba, military personnel and ordinary citizens worked together to reinforce or build dykes. In 1950, for example, secondary schools all closed so older students could take part in dyke building (Enarson and Scanlon 1999).

One of the other occasions on land when ordinary people were integrated into the response right from the start occurred in Gander, Newfoundland, after scores of North Atlantic flights were diverted to Newfoundland. To handle the thousands of unexpected arrivals, Gander set up a multi-agency response system that saw the airport deal with directing the incoming flights, federal agencies handle security, the Salvation Army set up a food service, and scores of public and private facilities serve as shelters. The first ones used were church camps run by the Anglican Church and the Salvation Army but—before long—schools, church halls, town halls and service club halls were all put into use (Scanlon 2002). Many of the stranded travellers were sent to nearby small towns; all immediately opened shelters and took care of feeding them.

In Ottawa, Ontario, during the 1998 ice storm, the Regional Municipality realized that there was an enormous demand for water and generators and wood for stoves. Its Emergency Operations Centre (EOC) had police, social workers, firefighters, bus company persons, and ambulance personnel but no one to deal with those demands. It quickly sought out persons not involved, added them to the EOC, and assigned them to deal with those issues, in effect creating an emergent addition to its planned organization (Scanlon 1999).

One of the most impressive examples of integration however occurred in New York City on 9/11. A volunteer who started providing supplies for emergency personnel at the World Trade Center steadily expanded his organization until scores of volunteers were collecting, sorting and handing out supplies.

It began with a single person asking rescue worker what they needed to do their job. That person then solicited the needed items from local merchants and redistributed them to the workers at Ground Zero. The process was repeated by many others and soon a temporary site was established at Pier 40 to supply the Ground Zero rescue workers. Over the next two weeks, several hundred persons volunteered to help in this effort (Voorhees 2008, p. 3).

The volunteer emergent organization acquired legitimacy because it was operated from within the secure area, it adapted to the needs of rescue workers, and the Park service supported its activities. It retained its status by its continuing ability to supply what was needed as demand shifted and its ability to integrate new volunteers into its structure (Voorhees 2008, p. 6). Indeed, Kathleen Tierney (2002) concludes that the response to 9/11 was effective because various organizations—both existing and emergent—were seamlessly fitted into the response.

The lesson here is that the response to the September 11th tragedy was so effective because it was not centrally directed and controlled. Indeed, it was flexible, adaptive and focused on handling problems as they emerged. It was a response that initially involved mainly those who were present...and then later merged the efforts of officially designated disaster response agencies with those of newly formed groups as well as literally thousands of other organized entities that had not been included in...emergency planning and were not subject to any central authority (p. 11).

The New York organization was similar to one that formed in Southern California in 1970 during a forest fire. The emergency agencies were unable to cope with the need to look after evacuees and turned the job over to civilian volunteers:

An officer of a women's club and her husband offered to help. They soon organized a system for tracking donations, offers of assistance and assigning tasks to incoming volunteers. A friend was recruited to divide supervisory responsibilities and to help manage the storage and disbursement of supplies, the establishment of a medical treatment area.... When firefighters needing rest began to arrive, the nature of the operation shifted to meet those needs (Forrest 1972, pp: 32-33).

In Kobe Japan after the earthquake, although there was some initial confusion, government and emergency agencies eventually accepted the value of a volunteer response and divided the tasks so the volunteers had their own role.

One reason for the success of Kobe's volunteers was the way in which local authorities and volunteers eventually developed complimentary functions. For example, while the government concentrated on repairing infrastructure, volunteers built and managed the day-to-day running of temporary shelters (Helsloot and Ruitenber 2004, p. 107).

Integration can also be achieved by thinking "out of the box"—coming up with imaginative ideas to cope with emergencies. When snow and ice totally disrupted travel by road, rail and especially by air out of Heathrow, the head of the British Automobile Association, Edmund King, suggested that the country needed what he called a "hit team". Farmers with tractors could assist in pulling cars out of ditches and clearing highways. He said the military could have been called in to assist with snow removal at Heathrow just as Canadian soldiers were used to clear snow in Toronto after a major storm. Unfortunately, no one seemed to be listening and Heathrow's management said it did not need assistance.

Suggestions for Improvement

It is now well established that ordinary citizens will act in mass casualty incidents such as Edmonton and incidents involving contaminated casualties. They will do initial search and rescue and they will transport injured to medical centres in private vehicles. There is no way the instinctive behaviour of dozens, scores, or perhaps even hundreds of individuals can be changed. The first step towards fitting ordinary persons into emergency response is to adjust the plans to reality—what Erik Auf der Heide (2002) calls "evidence-based planning". That means hospital administrators should assume most victims will arrive at one or two hospitals, will be brought there in private vehicles, and that the first arrivals will be the least injured. In turn, this suggests that, when the emergency medical service becomes involved, it should attempt to distribute the patient load by transporting victims where possible to the hospitals that have received the fewest

injured. It also suggests something else; if contaminated victims are involved, it is essential those transporting such victims be warned that they may be in danger. This means putting out a pre-scripted warning over all possible communication channels including the media and amber alert (Scanlon 2010).

That still leaves emergency personnel with the problem of assessing what has happened at high impact areas such as the trailer park in Edmonton before they arrived. One solution is to adopt what is sometimes known as “block parents”—people whose function is to keep track of who is away, who is at home and might be trapped in the wreckage, who has been rescued, and who were the rescuers (who will also have left). By collecting this information and making it available to emergency personnel when they arrive, these people would eliminate information gaps such as the one that occurred at the trailer park in Edmonton. This is essentially the scheme worked out between the Ottawa Police Department and seniors who asked what they could do in an emergency.

The next task is to determine what has happened overall and therefore what priorities there are for the deployment of personnel. When Canadian Forces personnel arrived to assist the Regional Municipality of Ottawa-Carleton (RMOC) after the 1998 ice storm, the first thing they did was gather what he military call intelligence. What this revealed was that, while the urban areas were coping quite well, the rural areas were hard hit and many dairy farmers were without power and were unable to milk their cows. The General in charge told his officers to find out how many soldiers could milk cows by hand and send those troops to assist dairy farmers (Scanlon and Kerr 1998).

There are other ways to identify what is happening. By opening call centres where people can phone in for information or assistance and monitoring those calls, it is possible to identify the issues that concern people. (Mobile phones keep working at least until batteries run down.) Those issues can then be addressed both by providing information through news conferences and by acting on the problems identified. The RMOC did this very effectively during the ice storm through its aptly named call centre, “Window on the Region” (Scanlon 1998). Another way of identifying what is happening is to be active on social media such as Twitter, Facebook and Foursquare. For instance, by assessing the re-tweets and pictures linked on Twitter, emergency service personnel can recognize what concerns its followers on social media (Veil et al. 2011). More empirical research however is required to examine the value of social media for emergency response organizations in practice. The same kind of information flow can be established through interaction with commercial radio. Singer and Green (1972) found that radio hosts were relaying citizen concerns to officials and reporting the answers back to their listeners. People could hear newscasts on car or battery radios.

Of course, this will work only if there are good media contacts in place before the emergency. When a train derailed in Minot, North Dakota, local emergency officials discovered that all local radio stations were operated remotely during the night and that they did not have contact numbers for staff of those stations. In contrast when a

windstorm devastated parts of the Canadian city of Sydney, Nova Scotia, the mayor used the one surviving radio station to dispel rumours. For example, when there were rumours the ferry from Newfoundland had sunk in the storm, he arranged for the station's mobile unit to interview the captain who said the weather had been rough but the ferry had not been damaged. That ended the rumour (Jefferson and Scanlon 1974).

Not Just Theory

If ordinary persons are to be involved in emergency response, it is important to identify what they might do. In Halifax after the 1917 explosion, teams of women were recruited to visit homes in the impact area. They were given two tasks—to inform those they visited what was available and to find out what the victims needed. They followed up on those first visits the next day. In short, they gathered intelligence just the way the military did after the ice storm. They worked with a group of civic leaders who agreed that various people—all civilians—would handle feeding, shelter, transportation, etc. The *ad hoc* committee—which met just hours after the explosion—even opened a morgue (there were nearly 2,000 dead) and arranged a line of credit from the Bank of Nova Scotia.

During the 1918-19 influenza pandemic, communities in Ontario decided that there were two major problems. They needed to set up emergency hospitals and they needed to assist persons who were stuck in their homes unable to care for themselves. They also needed volunteers to staff the hospitals and visit those homes. Since schools had been closed, they were able to recruit teachers for both tasks. Most of those who volunteered were given one or two hours of lectures before taking on such dangerous jobs, but there was no shortage of volunteers (Scanlon et al. 2009). The solution used in 1918-19 might not work today; for one thing, at least in Canada, more persons would go to hospital because health care is free; for another, teachers are no longer all single women—many now have family responsibilities.

In Lockerbie after the crash of Pam Am103, the chief executive officer realized that local people were not involved in the response but wanted to help. He convened a meeting with local citizens and asked them what they thought they could do to assist. Aware that soldiers had the unenviable task of recovering body parts, local residents decided they would each invite a soldier into their home, made him or her welcome, feed them and wash his or her clothing.

Awareness of this type of response has led to pre-disaster action in the Netherlands. In 2010, after conducting a literature review on ordinary citizens and emergency response in 2004 (see Helsloot and Ruitenberg 2004), the Amsterdam Amstelland Safety Region developed plans and procedures aimed at a) making a better use of the actions, skills, and knowledge of ordinary people, existing groups and organizations, and emergent groups in the emergency response; and b) enhancing the self-resilience of local

communities by organizing risk communication campaigns and by promoting safety training courses of commercial and non-commercial training companies. The region is the first safety region in the Netherlands, perhaps one of the first if not the first anywhere, to deliberately focus its attention on the role of ordinary citizens in emergencies and to develop policies covering that role (Van 't Padje and Groenendaal 2010).

The core of the new policies is a set of criteria that helps emergency responders decide whether and how to cooperate with ordinary citizens, existing organizations, and emergent groups. In the Amsterdam Amstelland model, all emergency responders are explicitly allowed to accept assistance from ordinary citizens and organizations in emergency response. This makes clear that cooperating with citizens and allowing citizens' response is a (new) professional standard. That does not mean cooperation with ordinary people is automatic; there are some conditions. First, co-operation must be voluntary—no individual group or organization can be forced to participate in the emergency response. Second, the tasks assigned should have minimal safety risks. Third, the tasks should add value to the overall emergency response. Fourth, ordinary citizens can only be asked to fulfill a task when they have the skills and knowledge to complete the task successfully.

In this model, special attention is paid to the cooperation with emergent groups. First, professional responders are expected to 'merge' with existing social structures. If there is a group of people that spontaneously begins to help the victims or emergency agencies, this group should be officially allowed to do so and the internal organization of the group should not be taken over by the professional emergency agencies since 'reorganization' during a crisis is often counterproductive. Second, professional responders are expected to legitimate volunteer activity. This can be done by providing volunteers access to the disaster area, giving them special clothing so it is obvious to others that they are volunteers, keeping them informed about the emergency work, etc. Third, professional responders are expected to find the natural leaders within volunteer groups and work with them, for instance by making arrangements only with these leaders of the group or inviting them to participate in meetings about the progress of the emergency response.

The Amsterdam Amstelland model has five phases, which begin when an emergency occurs and no professional responders have arrived yet. Phase one assumes that victims and bystanders will start with providing help and mitigating the crisis. In Phase two, the first few professional responders will arrive. In this phase, professional responders accept assistance and do not to push ordinary people aside. In Phase three, when commanders in charge of the fire brigade, police, and emergency medical service arrive, citizen response will be discussed in the first structured meeting. At that time, a decision should be made about the effectiveness of the assistance of ordinary people. If appropriate, arrangements will be made for registration of volunteers. Fourth, the operation continues under the control of the professional emergency response agencies. In this phase, no new helping citizens will be allowed to access the incident scene unless requested by the incident

commander. Fifth and last, citizens who made a contribution to the emergency response will be thanked by the official authorities and offered mental health support as well as the possibility to get compensation for any damage to their personal belongings. In short, private citizen involvement must be considered at all stages of emergency response.

The Amsterdam Amstelland Safety Region concluded that plans and procedures alone are not sufficient. Education and training are also important. The Fire Department has developed a training program aimed at providing professional emergency responders with a better understanding of the importance of ordinary people in the emergency response. It has also started to develop and test this approach through realistic exercises. In 2009, for example, the Department held the first pilot project in which ordinary citizens and professional responders exercised together. A large-scale traffic accident was orchestrated in front of a theater. Visitors were confronted with the traffic accident when they left the theater. After several minutes, the emergency responders arrived and they had to cooperate with the theater visitors who already provided the first emergency medical and mental health support to the injured.

Importance of Existing Groups

In taking this approach to planning, it is also important to see how existing groups can be integrated into response. The significance of this is illustrated by research after the eruption of Mount St. Helens, which found that the speed at which communities cleaned up the ash fall was a function of the existence of community-based organizations.

One of the areas I was really concerned about was the lower-income areas because of the Block Grant [a federally funded neighborhood assistance program]. What I found, and I physically went out and checked it, is that those lower-income people had their areas cleaned up quicker and were more organized than anybody else in the community.... We've gone through that area [in the planning process] so that everybody knows everybody else on their block—have their own little crime watch thing going and those kind of things down in that area and they *know* each other.... The people who we'd been working with...that's who we called and identified as...their leaders and coordinators in the emergency (Kartez 1984, p. 16).

This would suggest that emergency planners should identify existing organizations and find roles for them in emergency response. In Halifax in 1917, for example, Boy Scouts were used to deliver baskets of food to families. On Christmas Day, 1974, after Cyclone Tracy devastated Darwin, Australia, the first key responders were contractors who used their own equipment to clear streets that were blocked with debris. That only

took a few hours, but in those first few hours it was impossible to drive and difficult to cycle or walk around Darwin. Bicycle tires were soon punctured and foot injuries were common as persons tried to get around wearing their customary open-toed sandals (Scanlon 1979). Individuals can also be asked to assist; during the 1998 ice storm, local authorities asked people to check on their elderly neighbours especially those who lived alone.

It also makes sense for emergency planners not only to establish which groups can provide what kinds of assistance, but also to indicate what they will be asked to do in an emergency. When 217,000 people were evacuated from Mississauga, Ontario in 1979, those without a place to go to were advised that a shelter had been set up by the Red Cross at the Square One shopping centre. Peel Regional Police had simply called the head of the local Red Cross chapter and assumed that she would do as asked. They were unaware that the local Red Cross chapter had already called for assistance from Red Cross units all around Toronto (Scanlon with Padgham 1980). In some Canadian provinces, for example, Nova Scotia, social service support in an emergency has been designated a function of the Red Cross. That province now has 950 trained volunteers, not just from the Red Cross, but also from other agencies such as Salvation Army, St. John Ambulance, and local churches. Because handling pets can become a major issue—people want their pets with them—there is even a group called the Disaster Animal Response Team of Nova Scotia, which is directly linked to provincial Emergency Social Services.

There may be some restraints. First, as was frequently put forward in an Amsterdam workshop in 2010, emergency responders are often unwilling to accept assistance from ordinary people due to the possibility of being held accountable if volunteers get injured. Second, professional responders find it difficult to assess whether ordinary citizens are able to make a valuable contribution. For instance, professional responders are concerned that citizens might present themselves as experienced physicians when they are not. In Amsterdam-Amstelland, it is therefore stated in procedures that professional responders could ask ordinary citizens to show evidence that they indeed have the requested specialized skills and knowledge. If they can't do that, they will not be used. Third, it is now often a requirement that volunteers be screened if they are likely to be dealing with children to make sure that they have no record of sexual offences. This suggests that if emergency planners wish to integrate ordinary people into emergency response they need to consider how they will take whatever steps are required to make that acceptable. For example, the ability to integrate ordinary citizens into emergency response would be enhanced if some form of identification was provided to those whose specialized skills might be useful. The Canadian Red Cross has produced a booklet covering these issues. It's called *30-minute Quick Response Guide for Training the Episodic Volunteer*.

Summary and Conclusions

Although we have provided only a few examples of the types of individual and group response to emergencies, it has been established by others that individuals behave extremely well in emergencies. They do not panic. They are not confused or in shock and, for the most part, they do not become involved in anti-social behaviour. However, very often their response, no matter how effective, is not integrated into the response by emergency agencies because there is still a belief by some planners that emergencies must be handled only by trained emergency response personnel. Their first reaction is not to welcome the participation of civilians but to clear them away.

We suggest that, by studying what ordinary citizens have done and can do, agencies can learn that ordinary citizens can be a valuable part of the overall emergency response. This can be done by adapting emergency plans to take into account what civilians have done before emergency personnel become involved and adjusting those emergency plans accordingly. It can be done by being willing to recognize that ordinary people are performing a useful function and letting them do that—as the Royal Canadian Navy did after the Swissair crash, the US Coast Guard did in New York on 9/11, and what is now adopted in the Amsterdam Amstelland Safety Region’s plans and procedures. But it also can be done by approaching planning with the assumption that emergency response can be improved if ordinary citizens can be involved and searching for ways to do that, perhaps by reaching out into the community for suggestions. As Kartez (1984) concluded: “the use of neighbourhood volunteers may work best when organized neighbourhood groups already exist and agency staff has experience in working with those groups” (p. 18).

The role of ordinary citizens might be questioned if disaster response was a complex task, but this is often not the case. It was not difficult to see who needs help and help them by driving them to hospital. It was not difficult to stand at a door and ask people to go to another entrance. It was not difficult for a fishing boat to search the ocean for aircraft or human debris. It was not difficult for ferries, tug boats and private craft to offer a ride to people stuck in Lower Manhattan. It was not difficult for ordinary people to prepare meals for stranded travellers.

Although some aspects of emergency response—such as dealing with a hazardous chemical spill or doing heavy search and rescue—require specialized expertise and equipment, much of what needs to be done can be done by many members of the population. Instead of trying to exclude ordinary people by making disaster response seem unduly complex, emergency agencies ought to welcome involvement by ordinary people. In fact, it might even be wise for emergency agencies to study the way ordinary people respond—since it seems they are usually quite effective—to see if they can learn from them and improve their own emergency response. The procedures and plans made

by the Amsterdam-Amstelland Safety Region as presented in this article can be seen as a good practice in this regard.

Notes

1. All those interviewed were guaranteed their responses would be anonymous.
2. This official provided information on the condition he would remain anonymous.

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References

- Auf der Heide, Erik and Joseph Scanlon. 2007. "Health and Medical Preparedness and Response." Pp. 183-206 in *Emergency Management: Principles and Practice for Local Government*, 2nd Edition, edited by William Waugh and Kathleen Tierney. Washington, D.C.: International City Managers' Association.
- Disaster Research Group. 1958. *Behavior in an Emergency Shelter: A Field Study of 800 Persons Stranded in a Highway Restaurant During a Heavy Snow Storm*. Washington, D.C.: National Academy of Sciences, National Research Group.
- Dynes, Russell R. 1970. *Organized Behavior in Disaster*. Lexington, MA: Heath Lexington Books.
- . 1994. "Community Emergency Planning: False Assumptions and Inappropriate Analogies." *International Journal of Mass Emergencies and Disasters* 12(2): 141-158.
- Enarson, Elaine and Joseph Scanlon. 1999. "Gender Patterns in Flood Evacuations: A Case Study in Canada's Red River Valley." *Applied Behavioral Science Review* 7(2): 103-124.
- Forrest, Thomas R. 1972. *Structural Differences in Emergent Groups*. (Unpublished Doctoral Dissertation). Columbus, OH: Ohio State University.
- Helsloot, Ira, and A. Ruitenbergh. 2004. "Citizen Response to Disasters: a Survey of Literature and Some Practical Implications." *Journal of Contingencies and Crisis Management* 12(3): 98-111.
- Helsloot, Ira and Barry Van 't Padje. 2010. *Zelfredzaamheid: Concepten, Thema's en Voorbeelden Nader Beschouwd*. [Self-resilience: Concepts, Themes and Examples Considered]. The Hague, Netherlands: Boom Juridische Uitgevers.
- Jefferson, Jim, and Joseph Scanlon. 1974. *The Sydney Big Storm Report*. Ottawa, ON: Emergency Planning Canada.

- Kartez, Jack D. 1984. "Crisis Response Planning Toward a Contingent Analysis." *Journal of the American Planning Association* 50: 9-21.
- Kendra, James, and Tricia Wachtendorf. 2002. *Creativity in Emergency Response after the World Trade Center Attack*. Newark, NJ: Disaster Research Center.
- Kendra, James, Tricia Wachtendorf, and Enrico L. Quarantelli. 2002. "Who Was in Charge of the Massive Evacuation of Lower Manhattan by Water Transport on September 11? No One Was: Yet it was an Extremely Successful Operation." *Implications Securitas* 1: 3-5.
- . 2003. "The Evacuation of Lower Manhattan by Water Transport on September 11: An Unplanned Success." *Joint Commission of Quality and Safety* 39: 316-318.
- Perry, Ronald W., and Michael K. Lindell. 2003. "Understanding Citizen Response to Disasters with Implications for Terrorism." *Journal of Contingencies and Crisis Management* 11(2): 49-60.
- Rodriquez, Havidan, Joseph Trainor and Enrico L. Quarantelli. 2006. "Rising to the Challenges of a Catastrophe: The Emergent and Prosocial Behaviour Following Hurricane Katrina." *The Annals of the American Academy of Political and Social Science* 604:82-101.
- Scanlon, Joseph. 1979. "Day One in Darwin: Once Again the Vital Role of Communications." Pp. 134-154 in *Planning for People in Natural Disasters*, edited by Joan Innes Reid. Pp Townsville, Queensland, Australia: James Cook University of North Queensland.
- . 1998. *Ice Storm 1998: Sharing the Lessons Learned*. Ottawa, ON: Regional Municipality of Ottawa Carleton.
- . 1999. "Emergent Groups in Established Frameworks: Ottawa Carleton's Response to the 1998 Ice Disaster." *Journal of Contingencies and Crisis Management* 7(1): 30-37.
- . 2002. "Helping the Other Victims of September 11: Gander Uses Multiple EOCs to Handle 38 Diverted Flights." *Mass Emergencies and Disasters* 20(3): 369-398.
- . 2006. "Identifying the Victims of the Indian Ocean Tsunami: The Role of the Private Sector." *Journal of Business Continuity and Emergency Planning* 1(3): 1-12.
- . 2010. "Chemically Contaminated Casualties: Different Problems and Possible Solutions." *American Journal of Disaster Medicine* 5(2): 95-105.
- Scanlon, Joseph., and A. Prawzick. 1991. "Not Just a Big Fire: Emergency Response to an Environmental Disaster." *Royal Canadian Mounted Police Gazette* 54(6): 1-10.
- Scanlon, Joseph, Gillian Osborne, and Ann Simard. 1989. "This Time It's Real: First Day Response at the Dryden Air Crash." *Canadian Police College Journal* 13(4): 229-259.
- Scanlon, Joseph, with James Kerr. 1998. "Military Support to Civil Authorities: The Eastern Ontario Ice Storm." *Military Review* 4: 41-51.
- Scanlon, Joseph, with Massey Padgham. 1980. *The Peel Regional Police Force and The Mississauga Evacuation*. Ottawa, ON: Canadian Police College.

- Scanlon, Joseph, and Robert Hiscott. 1994. "Despite Appearances: There Could be a System: Mass Casualties and the Edmonton Tornado." *International Journal of Mass Emergencies and Disasters* 12(2): 215-239.
- Scanlon, Joseph, Terry McMahon, and Casey Hurrell. 2009. "Almost Only Women: Canadian Volunteer Response to the 1918-20 Pandemic." *American Journal of Disaster Medicine* 4(6): 331-344.
- Scholtens, Astrid, and Jelle Groenendaal. 2011. *Zelfredzaamheid Tijdens de Poldercrash*. [Self-resilience during the Poldercrash]. The Hague, Netherlands: Boom Lemma Uitgevers.
- Singer, Benjamin D. and Lyndsay Green. 1972. *The Social Functions of Radio in a Community Emergency*. Toronto, ON: Copp Clark.
- Tierney, Kathleen. 2002. "Not Again: Recycling Disaster Myths in the Aftermath of 9/11." *Special Session: Annual Meeting of the American Sociological Association*. Chicago, IL.
- Van 't Padje, Barry, and Jelle Groenendaal. 2010. Het Benutten en Versterken van (zelf) Redzaamheid in Amsterdam-Amstelland: Een Wijkgerichte Aanpak. [Using Enhancing Self-resilience of Ordinary Citizens in Amsterdam-Amstelland: A Community Approach]. Pp. 249-270. in *Zelfredzaamheid: Concepten, Thema's en Voorbeelden Nader Beschouwd*, edited by Ira Helsloot and Barry Van 't Padje. The Hague: Netherlands: Boom Juridische Uitgevers.
- Veil, Shari R., Tara Buehner, and Michael J. Palenchar. 2011. "A Work-In-Process Literature Review: Incorporating Social Media in Risk and Crisis Communication." *Journal of Contingencies and Crisis Management* 19(2): 110-122.
- Voorhees, William R. 2008. "New Yorkers Respond to the World Trade Center Attack: An Anatomy of an Emergent Volunteer Organization." *Journal of Contingencies and Crisis Management* 14(1): 3-13.
- Yong, Chen, Kam-ling Tsoi, Chen Feibi, Gao Zhenhuan, Zou Oijia and Chen Zhangli. 1988. *The Great Tangshan Earthquake of 1976 An Anatomy of Disaster*. Oxford, UK: Pergamon Press.
- Zurcher, Louis. 1968. "Social Psychological Functions of Ephemeral Roles: A Disaster Work Crew." *Human Organization* 27: 281-297.