
Agency coordination and the role of the media in disaster management in Hawaii

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Abstract: This study utilises survey research to describe and explain the role of the primary agencies, emergency managers and media reporters in agency coordination in disaster preparedness and response in Hawaii. An administrative case study is also utilised, based on an extensive review of Hawaii government documents and interviews with key personnel of the Hawaii Emergency Preparedness Committee (EPC), civil defense and other relevant government officials. Based on the perceptions of emergency managers and media reporters of the extent and role of interagency coordination at the Federal, State, and County, and community level, the study provides recommendations on how to improve capability in agency coordination and disaster management. The study further recommends increased funding for family emergency preparedness and local community response teams, and suggests that continuous training by emergency response coordinators could improve state and county disaster preparedness, and that coordination with the media reporting on disasters could be improved.

Keywords: agency coordination; disaster management; disaster preparedness; emergency managers; media; warning systems; survey.

Reference to this paper should be made as follows: Prizzia, R. (2005) 'Agency coordination and the role of the media in disaster management in Hawaii', *Int. J. Emergency Management*, Vol. 2, No. 4, pp.292-305.

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1 Introduction and general background

Agency coordination in disaster management among public and private sector agencies and organisations at the community, city, local, state, national, and even international level has become increasingly important. Technological advances of early warning systems and the continuous improvement of these systems facilitate and support agency coordination. Also, media coverage of government efforts to manage natural and man-made disasters has become increasingly more sophisticated in terms of the number and speed with which journalists transmit images locally and worldwide (Eyre, 2005; Kim, 2003; O'Leary, 2002).

The media often play a positive role in furthering community awareness before and during disasters. The media can assist governments, emergency managers, and on-site emergency workers in their efforts to enhance coordination among government agencies and the private sector (Obrusnik, 2005; Rattien, 2001; Sawant, 2003; Cate, 1998; Peters, 2005; Kim, 2003). However, the media can also be "an unwelcome intrusion to those working at the forefront of a disaster in traumatic and stressful conditions" (Eyre, 2005). The media can frustrate the effort of emergency managers and impede coordination (Eyre, 2005; Rajeev, 2003; O'Neill, 2003; Wenham, 1999).

In keeping with the general theme of agency coordination and the specific role of the media in disaster management, a pilot study on disaster management in Hawaii was conducted from 2003 to 2004. This research included an extensive review of government documents, surveys of Hawaii-based TV and print news reporters and emergency managers, and personal interviews of knowledgeable sources.

2 Disaster management in the State of Hawaii

As the only island state located in the Pacific Ocean, Hawaii is unique among the states in the USA and is required to be prepared for a wide range of natural disasters including tsunamis, volcanic eruptions, hurricanes, earthquakes, floods, and brush and forest fires. The primary government agency for disaster response is the Oahu Civil Defense Agency (OCDA), a department in the City and County of Honolulu. The Mayor acts as the CEO of OCDA and has the power to declare a disaster. Disasters are county-specific. Each county (*i.e.*, Honolulu, Maui, Kauai and Hawaii) individually determines what constitutes a disaster. For example, the island of Hawaii may have volcanic eruptions listed as natural disasters, while Honolulu would not. Disasters can also be localised to certain areas within a county and designated to the Local Emergency Planning Committee (LEPC), which is part of the City and County of Honolulu, as opposed to the State's Emergency Response Commission, which oversees the Hawaii State Civil Defense System. The State's primary responsibility is to provide leadership in rapid assistance during disasters, with a full range of resources and effective partnerships. To strengthen its leadership role, the State of Hawaii hosted leaders from the public and private sectors to meet and develop innovative response strategies at the Inaugural Asia-Pacific Homeland Security Summit in Honolulu in November 2003 (Mangum, 2003).

There are federal requirements for each state to establish a community emergency response plan and the lead agency for compliance for the City and County of Honolulu is the OCDA (1997) with its Emergency Operations Plan. The Mayor must regularly report on the progress of various aspects of agencies such as the Environmental Protection Agency (EPA) and Occupational Safety and Health Agency (OSHA). Both OSHA and EPA have regulations to help protect workers with hazardous waste and emergency operations. The LEPC must develop a community emergency response plan (contingency plan) that contains emergency response methods and procedures to be followed by facility owners, police, hospitals, local emergency responders, and emergency medical personnel. The EPA generates these requirements and oversees the states' implementation of emergency response planning programmes. It should be noted that the State of Hawaii's Department of Labor and Industrial Relations is one of only 25 states to have an emergency response plan approved by OSHA.

All city departments follow the directives outlined in the City and County of Honolulu's Emergency Operations Plan (EOP). Once the EOP draft is approved by the Mayor and City Council, all county departments and coordinating county agencies will follow suit accordingly. In May 2002, the Federal Emergency Management Agency (FEMA) conducted a full-scale HAZMAT field exercise at Campbell Industrial Park to test Honolulu's Hazardous Materials Response Plan. This exercise, named 'Operation Kalaeloa,' was a successful test of Hawaii's emergency response procedures and system that involved over 2000 participants, including 13 of 18 Oahu hospitals (Carter, 2002). Most of Oahu's medical centres play a crucial role in disaster preparedness and response (Griffith and Oshiro, 1999). In particular, Queen's Medical Center (QMC) with its 560 beds is the largest and oldest hospital and main trauma centre in Hawaii. QMC is instrumental in the coordination of disaster response and it plays an active role in Honolulu's Disaster Committee (Prizzia, 2004).

3 Coordination of public and private medical centres

Founded in 1859 by Hawaiian royalty, QMC offers a comprehensive range of primary and specialised care services and plays a major role in the overall response to natural disasters and other emergencies in the State of Hawaii. QMC currently has over 1000 physicians on its staff, a total of 3500 employees, and an annual budget of \$1 billion. The QMC's trauma facility has been verified as a level two trauma centre by the Committee on Trauma of the American College of Surgeons, the national accrediting agency for trauma services (Griffith and Oshiro, 1999).

As a level two trauma centre, certain essential services must be made available to the public. These include:

- twenty-four hour immediate coverage by general surgeons and specialists in orthopedic and neurosurgery, anesthesiology, emergency medicine, radiology, and critical care
- an ongoing commitment to trauma prevention and to the continuing education of trauma team members
- continuous efforts to improve the quality and effectiveness of trauma care through a comprehensive quality assessment programme (QMC, 1998).

At the hospital level, QMC has its own Emergency Preparedness Committee (EPC) that is responsible for developing and maintaining a system of emergency codes. When the appropriate code is activated (*i.e.*, when an actual disaster or emergency has already occurred), a command centre is created and headed by the Administrative Disaster Officer at the medical centre. When a disaster strikes, QMC focuses primarily on:

- the number and types of victims coming into the hospital
- internal problems at the hospital, including the possibility of risk through damage, contamination, *etc.*
- optimising patient outcomes
- assessing and improving risk management for similar incidents in the future.

QMC has developed a comprehensive Emergency Safety Manual that contains detailed procedures for every unit of the hospital and for each kind of emergency. At the present time, employees must respond to a monthly hospital-wide drill that uses a randomly selected emergency code. The results of the drills are reviewed by three subcommittees of the EPC and incorporated into the emergency preparedness recommendations they make to the Board of Trustees.

According to QMC's Security Director, when a disaster drill occurs, the trauma centre is prepared to treat patients as soon as they arrive and everything usually goes as planned.

From an overall assessment, the author identified the major factors contributing to QMC's excellent track record when handling emergencies. They are:

- Continuous evaluation and improvement of the Emergency Preparedness Safety Manual.
- The high priority QMC places on continuous disaster preparedness training for all of its employees.
- Competency of staff, and especially the Trauma Services Unit.
- The highly effective coordination QMC has developed with outside agencies.

It has been proposed that emergency management is both proactive and reactive and this realisation applies to QMC in its efforts to coordinate with outside agencies (Sensenig, 1999). The primary means by which QMC achieves its coordination is through the Healthcare Association of Hawaii (HAH).

The HAH is a non-profit organisation representing the State of Hawaii's acute care hospitals and two-thirds of the long-term care beds with a total of 41 facilities. HAH also represents community-based providers and many supporting organisations that provide services and supplies to the healthcare industry. This includes the HAH Emergency Preparedness Committee (EPC), which is responsible for providing hospital services in support of the state civil defense system as cited in Hawaii's Disaster Relief Act (Hawaii Revised Statutes, Chapter 127) and various federal, state, and county emergency response plans. The Chair of the EPC is appointed by the Chief Executive Officer (CEO) of HAH. Members are appointed by the CEO of their respective healthcare organisation. The EPC coordinated 'Island Crisis', a full-scale chemical terrorism response drill in May 1999 in which 14 hospitals participated and five of these facilities demonstrated their ability to provide emergency casualty decontamination.

The Honolulu-based EPC is unique in the nation. Its strength is the ability to bring key stakeholders involved in healthcare emergency response into one, well-aligned, and well-coordinated system. Improvement opportunities include the need to further incorporate non-hospital organisations into the network more effectively and to provide ongoing professional development of hospital emergency coordinators. A key player with EPC is Toby Clairmont, Vice President of Kaiser Permanente Medical Center in the State of Hawaii. During 'peacetime', he chairs the EPC, and during 'wartime', when an emergency threatens or has occurred, he serves as the special staff officer for the Honolulu Emergency Operations Center (EOC) coordinating all hospitals in the State of Hawaii. According to Vice President Clairmont, who has worked over 250 emergencies in the last 25 years ranging from multi-family structural fires to hurricanes, three critical factors in successfully responding to emergencies are:

- 1 family emergency preparedness
- 2 local community emergency response teams
- 3 well-trained organisational coordinators.

HAH includes among its affiliate members other organisations that support coordination in emergency response efforts, such as Hawaii Air Ambulance and International Life Support, Inc. Moreover, a website was developed by the Emergency Preparedness Program (EPP) of the HAH. It is designed to provide information and data management services to healthcare facility emergency managers of organisations, such as the American Red Cross, Hawaii State Civil Defense, OCDA, and hotels that are also members of Honolulu's disaster committee at the City and County of Honolulu's EOC. This coordination extends to the neighbouring islands. For example, in June 2001, the West Hawaii branch of the American Red Cross provided disaster response training to community-based volunteers in Kona.¹

Other organisations in the network are Kaiser Medical Center, Kuakini Medical Center, St. Francis Medical Center, Queen's Medical Center, Tripler Army Medical Center and the Blood Bank of Hawaii. The Blood Bank of Hawaii plays a vital role and designates 10% of all donated blood to disaster victims suffering from trauma.

4 Agency coordination

The OCDA facilitates agency coordination through communication, training, procedures and information within the City and County of Honolulu. The OCDA also coordinates disaster responsibilities among various private organisations and educates the public about emergency preparedness. Interviews with OCDA personnel revealed that they are continuously reviewing, revising, and testing procedures outlined in the Emergency Operations Plan. The administrator of the OCDA works closely with the Mayor and acts as an advisor for disaster preparedness and emergency management. The OCDA also has hundreds of volunteers.

The Emergency Operating Center (EOC) is designed to facilitate agency coordination emergency response including establishing operational policy, providing logistical and resource support, and communications. Specifically, the EOC houses the communications system for the Emergency Broadcast System and a meeting area for the City and County of Honolulu's Disaster Committee. During a real disaster or training exercise, the City and County's Disaster Committee gathers on a rectangle table equipped with a telephone for each seat. The Mayor sits on one end of the table and the OCDA Administrator on the other. Other representatives from various City and County of Honolulu departments occupy the rest of the table (*e.g.*, fire, police, public works, *etc.*). The EOC also houses the communications and radio devices for Emergency Medical Services (EMS), hospitals, police, fire, utility companies, and federal, state and other county agencies.

In 2002, the State of Hawaii developed the Hawaii State Multi-Hazard Mitigation Plan to address Hawaii's experience with, and continued vulnerability to a wide range of climatic, hydrological, seismic and geological hazards. This plan represents a long-term strategy for reducing the potential destruction of natural disasters and was developed in response to the 2000 Disaster and Hazard Mitigation Planning Act, which established state and local hazard mitigation planning in accordance with federal standards required by FEMA (State of Hawaii, 2002).

5 Coordination of warning systems and disaster Centres

Advanced warning systems located at disaster and research centres in Hawaii also aid agency coordination in response to a wide range of natural disasters that threaten Hawaii and the Pacific region. The Pacific Tsunami Warning Center (PTWC) was established in 1949 in Ewa Beach, Hawaii, to provide advance warnings of likely tsunamis to most countries in the Pacific Basin. It is continually upgraded with the most sophisticated technology, including access to NASA's Earth Observing System (EOS) data. The PTWC also plays a crucial role in agency coordination in disaster response in Hawaii and throughout the Pacific. The PTWC monitors a real-time reporting deep-ocean system that communicates with weather resistance surface buoys that surround the Hawaiian Islands, and are sensitive enough to detect tsunami vibrations throughout the Pacific (EOSDIS, 2005).

The Pacific Disaster Center (PDC) located in Kihei on the island of Maui in Hawaii, enhances agency coordination by assisting emergency managers to network in Hawaii and throughout the Pacific Region to make informed decisions in times of crisis (Shirkhodai, 2003). The Research Corporation of the University of Hawaii (RCUH) in coordination with the PDC, Hawaii State Civil Defense, Pacific Command for US Department of Defense (DOD), FEMA and other disaster organisations has begun development for the automatic production of cloud-free base images using full-resolution Landsat 7 data. This advanced technology and Landsat 7 data will enable users at remote sites to evaluate the quality and coverage of images using browse data prior to ordering the full resolution scenes. This technology will also enable disaster managers to obtain an essentially cloud-free high resolution satellite image of their geographic area of interest. The image will be generated 'on demand' using the most recent data available for the area, which extends over much of the Pacific and Indian Oceans (Mouginis-Mark, 2005).

6 Coordination at the community level

Recognising the importance of preparing citizens for a wide range of potential disasters at the community level, FEMA expanded training programmes for the Community Emergency Response Team (CERT) from primarily fire to medical and eventually all hazards, natural and man-made (see Table 1). According to the OCDA Operations and Planning Director, many teams of Hawaii residents have participated in the various CERT training sessions since its beginning in 1997. More importantly, neighbourhoods that have CERT-trained teams have not only been made more aware of how to respond to disasters but have been more effective and efficient in their response to actual emergencies (FEMA, 1999). Communities that actively participate in the CERT and FEMA's Project Impact are provided assistance to develop strategies to become more disaster-resistant. The overall strategy involves coordination and a local partnership of government and business to reduce the human and financial costs of disasters. In Hawaii, the County of Maui and Hawaii County were selected by FEMA's Project Impact and are part of a growing list of specially designated 'disaster-resistant communities'.¹

Table 1 Disaster categories and types

<i>Weather</i>	<i>Man-made</i>	<i>Transport and communication</i>	<i>Medical</i>	<i>Major disturbance</i>	<i>Energy</i>
Floods	Structure fire	Telephone system	Epidemic	Civil disturbance	Fuel shortage
Hurricanes	Hazardous materials	Major road accidents	Mass poisoning	Subversion/sabotage	Major power failure
Earthquakes	Building collapse	Aircraft crash	Water supply contaminate	Labour unrest	
Brush/forest fire	Power failure		Major accidents	Bomb threats	
Volcano	Explosions				
Tidal wave (tsunami)	Terrorism				

Source: Adopted from Carroll (1999, p.27)

7 Media and emergency manager coordination

The role of the media in emergency management coordination is of special importance. The impact of the media on emergency management is a topic of great concern during all phases of a disaster, but is particularly critical during the final phase of disaster preparedness and the initial phase of disaster response. Media reports help shape perceptions about how to prepare and respond to disasters, especially in the immediate post-impact stage of the disaster.

To obtain first hand data on the role of the media during the critical phases of final disaster preparedness and initial disaster response, TV news reporters (including the news anchors of the four major Hawaii-based TV Stations) were surveyed during the month of November 2003 (Prizzia, 2004). Forty of the 50 TV news reporters contacted by mail and telephone responded to the 2003 survey, representing 80% of the reporters who report on disaster-related news stories in Hawaii. The TV reporters were asked the following three questions:

- 1 Following a major disaster, do you feel the news media are more interested in actual damage or human-related type stories?
- 2 In the rush to get the headline story, do you feel the news media omit critical facts that could or might help other individuals?
- 3 When selecting the story line after a disaster has already occurred, do you feel the news media should be responsible to broadcast information provided by emergency management sources?

8 Results of the 2003 survey

Results of the 2003 survey indicated that there exists variations in media reporting patterns on disasters and that these variations are due primarily to the type of disaster, interview incidence, 'news hole' space, and time.

Apparently, it is more likely for exaggerations, omissions, and distortions to occur in the reporting of natural disasters as opposed to technologically related disasters. The exceptions are usually those types of disasters that involve chemical spills, nuclear radiation, and transportation accidents (*e.g.*, plane, ship and rail crashes, *etc.*).

It seems that what is referred to as 'soft' news reporting occurs most with natural disasters when there are available victims for interviews who have a high human interest to viewers. According to most of the respondents, the only constraint in reporting human interest stories is the time limit required for submission for the next TV broadcast slot and/or 'news hole' space. News hole space prioritises the time and/or space available or allotted for the story. According to the respondents, the more time for the story, the more likely 'soft' news aspects of the disaster will be reported. The less time allotted, the more likely only the hard news facts of the natural disaster will be reported, such as the recorded wind velocity, number of inches of rain per hour, water levels at the shoreline, amount of property damage, and the number of injuries and deaths.

Generally, most of the respondents felt that they reported on both the actual damage and the human-interest type stories, but tended to report more extensively on the human-interest stories.

When asked if the news media omit critical facts that could help individuals in their rush to get the headline story, most respondents admitted that critical facts are sometimes omitted and/or reported incorrectly. However, respondents also noted that while time is a primary factor in critical facts being omitted or distorted, this is never done purposely, and follow-up stories usually correct previous errors. Also, there was a general consensus that this is more of a problem for the TV news reporters than the print media.

In response to the final question as to whether the news media should be responsible to broadcast and/or print information provided by emergency management sources, most respondents said that they should not be required to do so, but they should do it as a public service.

9 Results of the 2004 follow-up survey of media respondents and emergency managers

The November 2003 survey was repeated in November 2004. The response to the 2004 survey included 40 of 50 (80%) TV news reporters, some of whom did not respond to the 2003 survey; 15 of 20 (75%) newspaper (print) reporters of disaster incidents; and 25 of approximately 100 (25%) full-time emergency managers on Oahu. A summary of the similarities and differences of the results of the 2003 media survey compared with the 2004 media survey, as well as the results of the 2004 survey of emergency managers follows.

In response to the question "Following a major disaster, do you feel the news media are more interested in actual damage or human-related type stories?", most of the media respondents to the 2004 survey, like those who responded to the 2003 survey, felt that all reporters of disaster events are equally interested in stories that show the 'human interest'

side of the damage by focusing on one person's story and then including all the other information about the actual disaster damage. Typical comments by media respondents to the 2004 survey included:

- Coverage of a major disaster involves both human and cost factors. We must balance our stories to include the human angle as well as the fiscal toll of any disaster. To say one report is more important than the other is to diminish both.
- The human toll is much more important in humanistic terms, but the fiscal cost of a disaster also affects our readers since taxpayers usually pick up the cost of recovery.

In comparison to the 2003 survey, most of the 2004 media respondents also noted in their answers to this question that:

- There is a difference in medium or reporting, with TV focusing more on the extent of the disaster damage while print goes more into depth on the 'human' side of disasters.
- The timeline of the disaster makes a difference. The media are more concerned with the damage aspect of a story shortly after the incident occurs. In most reports the media always want to know injuries, value damages, and death counts. We always report from the scene to show the extent of the damage.
- We try to report on the damage first then human interest stories. These might both be in the same story. We always want to report the facts—how much damage, how many people affected, but the human interest angle can help readers understand what these numbers and plans actually mean to 'real people.'

In response to the question "In a rush to get a headline story, do news media omit critical facts that could or might help other individuals?," typical comments from the 2004 media respondents included:

- Information may be inadvertently omitted in the rush to meet deadlines when reporting on a disaster; however, as the story develops and we learn more about the disaster, we will usually come back on the air during the newscast to 'update' the developing disaster story.
- We only have 75 seconds maximum per story and we have to keep to the major points and direct you to a website for details.

Several print media respondents reported that:

- When something is deemed critical to public safety, the media do their best to report it as soon as possible but this often depends on how close to the news deadline a disaster occurs and when 'deadline falls', print reporters have to stop working on the disaster stories and go with what they have.
- While word can not get out as quickly in the newspaper as on TV, print reporting generally follows with more comprehensive coverage.

Several TV reporters stated that they are always concerned about accuracy when reporting on disasters but recognise that some reporters are less experienced than others, which may sometimes account for 'poor reporting and wrong data'.

In response to the question “When choosing a storyline after a disaster has occurred, should the media be responsible to broadcast information provided from emergency management sources?”, most print and TV media respondents in the 2004 survey agreed that getting safety information from emergency managers out to the community is a high priority. However, several media respondents also stated that:

- Good news reporting includes information from multiple sources and media outlets and a ‘free press’ is not required to report anything by the government.
- In a disaster situation, emergency information should be made available and the federal government can commandeer our airwaves to disseminate emergency information via the Emergency Broadcast System.

10 Results of survey of emergency managers

The survey of Hawaii-based emergency managers included federal (*e.g.*, FEMA), state and county managers responsible for disaster preparedness response and recovery in the State of Hawaii. The emergency managers were asked to respond to the same three questions that were posed to the print and TV reporters.

In response to the question as to whether the media are more interested in actual damage or human interest stories following a major disaster, typical responses from emergency managers included:

- Sometimes TV reporters do not take the time to verify their information before going to broadcast and they often focus on being the first to report to the public before other journalists and tend to choose and cover a story that will get the most viewers and ratings.
- The media cover both damage and human interest stories immediately after a disaster, but they often file ‘second day’ stories, which ‘find fault’ with, and/or ‘blame’ the government agencies’ disaster response efforts.

In response to the question “In the rush to report a headline story during a disaster, do the media omit critical facts that could or might help other individuals?”, most emergency managers stated that:

- Because of limited newspaper space, TV news time limits, deadlines, and inexperienced reporters, sometimes critical facts are omitted while others are reported incorrectly, which can affect actual and/or potential victims of a disaster.
- Often it is a government public relations officer’s job to provide information on disasters to the media in a condensed and concise format and in a manner that helps reporters understand what is of critical importance to the public.

One emergency manager respondent noted that in a recent natural disaster situation his impression was that “being the first to broadcast a story is more important than getting all the facts right. I personally have watched news reports stating facts about an incident and then turned to another TV station and watched a totally different set of facts and circumstances”. However, most emergency managers responded that they rely on the

support and professionalism of local TV and print media to broadcast and publish all forms of disaster awareness information to accomplish the government's public information mission to the community.

In response to the question "When choosing a story line after a disaster has occurred, should the media be responsible to broadcast information provided from emergency management sources?", most emergency manager respondents stated that "media reporters usually comply with requests from emergency management sources, but they are not legally required to do so". Most emergency manager respondents also noted that:

- Media should not be required to report all disaster information provided by emergency management sources but the news media have the responsibility to inform the public of vital information from the emergency management sources, given that the media do reach so many people so quickly. Providing information from emergency management sources to the public is critical in disaster situations. Often, the media are publicly funded by FEMA and civil defense agencies to do so.
- The news media should be responsible for publishing and broadcasting information by emergency management sources by including it in their reporting of the disaster story to the public. In general, during a disaster the print media do a better job of reporting public safety information from emergency management sources than do TV media.

Several emergency manager respondents stated that there are rarely any post-incident events and/or situations after a disaster has occurred where it would be necessary to mandate media to report emergency management sources of information, but the TV and print media should be responsible to provide this information to the public. On the other hand, these same emergency management respondents felt that:

- TV and print media should be mandated to carry pre-incident emergency alert system/emergency broadcast system messages by the Federal Communications Commission (FCC) and that the current voluntary programme should be an incentive-based programme where the FCC would provide backup generators and/or equipment to the media in return for the media carrying our EAS'EBS messages on a mandated basis. Pre-incident messages include critical life-safety messages about evacuation, sheltering and protection.

One high-ranking emergency manager respondent at Oahu Civil Defense Agency provided the following example in which media failure to broadcast emergency information provided by OCD resulted in a serious case of misinformation.

- We in emergency management are in the business of public safety. To that end, the information that we generate reflects our mission to protect people's lives and property. We are tasked with providing factual situational information from official sources at the county, state, and federal level. At Oahu Civil Defense when we speak of broadcast emergency information we do so with the authority of the City and County of Honolulu and the Mayor's office. It should behoove our local media partners to depend on and broadcast this information on behalf of the public that we all serve. Several years ago we had a hurricane system quickly approaching the Hawaiian Islands. A local news channel opted to report meteorological and storm tracking information from a private weather service based on the West Coast. The information that they chose to broadcast was the exact opposite of official

information being put out. As you can imagine this caused panic and confusion. Emergency managers throughout the State were broadcasting and relying on bulletins from the National Weather Central Pacific Hurricane Center at the University of Hawaii. Of course the National Weather Service was correct and the private service was wrong. The fallout affected the station's ratings and resulted in the termination of several careers.

11 Conclusions and recommendations

The State of Hawaii seems well prepared to respond to natural and man-made disasters as a high priority. As the only island state located in the Pacific Ocean, Hawaii continues to require emergency management capability to respond to a wide range of natural disasters. Hawaii's emergency management and intergovernmental agency coordination at the federal, state, county and even community level appears to be relatively effective in response to natural disasters such as tsunamis, hurricanes, earthquakes, and flooding. The effectiveness of disaster response coordination is supported and enhanced by relevant FEMA and other training programmes and advanced technology that includes state-of-the-art warning systems at disaster centres and research facilities throughout the state. Disaster response training drills have also been extended to non-governmental organisations including medical and other relevant facilities throughout the Hawaiian Islands to enhance cooperation and communication at the point of impact during actual disasters.

Surveys conducted in 2003 of TV news reporters and in 2004 of newspaper and TV news reporters and emergency managers show that effective communication and cooperation between and among emergency managers and the media are critical before, during and immediately after major natural disasters. There seems to be general agreement among emergency managers and media reporters that the media reports help shape community perceptions about how to prepare and respond to disasters. Media respondents to the survey generally felt that reporters of disaster events are equally interested in the 'human interest' side of disasters, as well as the technical information on actual disaster damages, while emergency manager respondents felt that news media reporters are generally balanced, but tend to cover stories that attract the most attention from the public.

There was general agreement among all respondents that print media reporters usually tend to be more comprehensive and accurate in covering actual disaster damages. Most media respondents concluded that in the rush to report a headline story during a disaster, the media often omit critical facts that could help individuals and even communities affected by the disaster. Most emergency manager respondents felt that this aspect of media reporting of disasters continues to be a problem especially among TV reporters and needs improvement. Most media respondents felt that media reporters should be responsible to publish and/or broadcast information provided by emergency management sources, but should not be legally required to do so in the interest of maintaining a 'free press'. Most emergency manager respondents generally agreed that the media should be responsible to broadcast and publish emergency information that their agencies provide before, during and after disasters and some respondents felt the media should be mandated to do so.

Based on the research undertaken, including the survey of the media reporters and emergency managers, the State of Hawaii should continue to maintain as a high priority effective disaster preparedness training programmes and technologically advanced disaster warning systems. Also ongoing disaster drills designed to improve communication and coordination during actual disasters should be continued and enhanced with the assistance of FEMA and other relevant government agencies and non-government organisations. Finally, coordination and cooperation should be improved between emergency managers and media reporters, and also among print and TV reporters before, during and after disasters. One recommendation of the emergency managers to improve media reporting on disasters is to require TV and print media reporters to participate in government-certified disaster preparedness and response training programmes prior to being assigned to reporting on disasters.

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Note

- 1 West Hawaii Today (2001) Daily Newspaper, 14 June, p.2.