ABSTRACT

Due to the substantial economic losses in the recent decade resulting from natural and human-caused disasters, many US colleges and universities have established their own emergency management offices and departments. This review evaluates the University of Washington’s first year in establishing an emergency management office, the Federal Emergency Management Agency’s role in supporting college and university disaster coordination efforts through the development of the Disaster Resistant University program, and the future of emergency management programs at institutions of higher education.

INTRODUCTION

Over the past decade, colleges and universities in the United States have increased the development and delivery of courses, degrees, certificates, and other methods of instruction to professional emergency managers. However, there has also been a parallel movement for many institutions of higher education to practice what they preach. Due to the substantial economic losses in the recent decade resulting from natural and human-caused disasters, many colleges and universities have begun to establish and support their own emergency management (EM) offices and departments. There are unique challenges in dealing with colleges and universities that make it difficult to apply local government EM models to academic institutions of higher learning. With their own diverse populations, critical infrastructure and related hazards, and specialized resources many colleges and universities are considered a city within a city.

GROWTH OF UNIVERSITY EMERGENCY MANAGEMENT OFFICES

Although no independent survey has been conducted to quantify how many EM programs have been established, information is spreading via word of mouth through professional associations and list servers. The events of September 11, 2001, influenced the decision to develop programs that reduce the risks of disasters. In the immediate aftermath of the attacks, many higher education institutions reviewed their disaster plans and began to reconsider issues of safety and security.

The events that Pace University in New York City experienced as a direct result of the terrorist attack on the World Trade Center tested its readiness to deal with such a disaster. Its main Manhattan campus was only two blocks away from Ground Zero. Furthermore, its World Trade Institute program was operated from the 55th floor of the South Tower of the World Trade Center. Four Pace students and 40 alumni lost their lives.¹ Days after the attack, air quality, water contamination, and the restoration of communications became chief concerns along with the resumption of operational and academic functions.¹

In the last decade, disasters have affected university and college campuses with disturbing frequency, sometimes causing death and injury but always imposing monetary losses and disruption of the institution’s teaching, research, and public service.²

In June 2001, Tropical Storm Allison inundated the Houston area and its universities and colleges with 10 to 24 inches of rain. The University of Texas at Houston Medical Center was flooded with 22 feet of water, causing the hospital to close for the first time in its history and seriously disrupting its...
research efforts. The total losses were estimated at $2 billion.\(^3\)

Damage can result in significant losses that can be measured by faculty and student departures, decreases in research funding, and increases in insurance premiums. The experiences of Pace University and the University of Texas along with the impact of the 2001 Nisqually Earthquake on the University of Washington (UW) demonstrate that losses could have been substantially reduced or eliminated through comprehensive predisaster planning and mitigation actions.

The Federal Emergency Management Agency (FEMA) together with the University of California at Berkeley conducted a study of earthquake hazards and the economic consequences of potential losses at the Berkeley campus as a development component of the Disaster Resistant Universities (DRU) initiative. The study, *Economic Benefits of a Disaster Resistant University: Earthquake Loss Estimation for UC Berkeley*, found that structural and nonstructural damage could close from 50 to 70 percent of campus space for up to one year after a magnitude 7.0 or larger earthquake on the Hayward fault.\(^4\) Among the 17 campus buildings in which 75 percent of the research is concentrated, the same portion of space—50 to 75 percent—could be significantly damaged and closed after a major seismic event.\(^4\) Finally, one-third of the replacement value of the campus is in its contents—all highly susceptible to damage.\(^4\)

Although the loss to buildings and contents represents 30 to 40 percent of the replacement value of the campus, the greatest potential losses, in academic and regional economic terms, would result from a substantial earthquake that forced even a partial campus closure. Based on these findings, the study recommended that the campus consider operational needs in planning for building improvements, business resumption plans for all units, and nonstructural mitigation programs across the campus.\(^4\)

**UNIVERSITY SEEN AS CITY**

Universities are often considered as a city-within-a-city with their own diverse populations, critical infrastructures, and specialized resources. With billions of dollars collectively in annual private and public investment, these institutions deserve the attention of a comprehensive EM program similar to those provided in their neighboring communities, cities, and counties. At the UW, the weekday population between the hours of 9 AM to 5 PM is approximately 65,000 in .4 square miles.\(^5\) The population increases six times a year to approximately 73,000 during Husky home football games.\(^6\) In addition, UW generated $2.7 billion in revenue, which grants and contracts constituted 32 percent or $843 million in fiscal year 2003.\(^5\) People and financial resources are concentrated in a small area, of which is geographically divided by a body of water. Careful planning is required to avoid devastation by a future catastrophic event.

As a result of tumultuous events at the university and around the world, which included the Nisqually earthquake, fire bombing of the Urban Horticulture Center, the 9/11 attacks, and anthrax mail threats, the UW established its first Office of Emergency Management in 2003. Located at the Seattle main campus, the goal of the office is to coordinate campus emergency planning, mitigation, preparedness, response, and recovery efforts.\(^7\) Additionally, the Office of Emergency Management acts as the primary liaison between the university and other outside government (city, county, state) EM agencies and centralizes all campus-wide emergency/disaster plans, training, and exercises.

The UW is also following a national trend—the realization by many college/university administration officials that their campuses deserve the attention of a full-time professional staff dedicated to saving lives and preserving the missions of the institution. These trends include:

1. Developing more proactive activities on preparing for a large-scale disaster that could impact a large area of the campus. This goes beyond the basic fire drill by coordinating different operational units responsible for responding during an event in tabletop and simulated exercises.
2. Emergency information has been elevated to a higher priority. Now, instead of searching for the Web site, a number of colleges and universities have made it a priority to provide a direct link to emergency information from their home pages.

3. Academic institutions in the last two fiscal years have directly benefited from federal grants. Two grants were awarded to the UW in recent years that assisted in strengthening the EM program.

Disaster Resistant University program

In 2000, UW was selected by FEMA, now under the Department of Homeland Security (DHS), to participate in the national DRU program. Along with the University of California at Berkeley, the University of Alaska at Fairbanks, the University of North Carolina at Wilmington, Tulane University, and the University of Miami, UW was designated as a leader in campus emergency preparedness nationwide.

As a result of the $100,000 in program support funded through the FEMA grant, UW has developed a number of new and innovative programs designed to reduce or eliminate the impact of disasters on the students, faculty, staff, and visitors. These included completing a risk assessment, updating a campus emergency operations plan, conducting hazard awareness education, improving emergency response training, and outlining a business continuity planning process.

Urban Area Security Initiative

Robert Mueller, Director of the Federal Bureau of Investigation (FBI), warned in his congressional testimony to the US Senate in February 2003 of multiple small scale attacks against soft targets, which included schools and universities along with places of recreation and entertainment.8

Having been identified as a location with a number of high risk targets, UW has received over $2 million in funding via the City of Seattle under the Urban Area Security Initiative (UASI) grant program. The DHS Office for Domestic Preparedness set the expectation that states and municipalities must strengthen their overall capability to respond to acts of terrorism involving chemical, biological, radiological, nuclear, or explosive (CBRNE) weapons. By awarding grants for the development of projects that would affect high-density, high-threat areas and for the protection of critical infrastructure, the intent was to continue to meet national priorities of preventing and responding to terrorist attacks.

ALL-HAZARDS APPROACH

The current funding reality is that support for EM programs is being diverted to counterterrorism programs at the national level. Therefore, it is important to emphasize that colleges and universities must adopt an all-hazards approach. According to William Waugh, Professor of Public Administration and Urban Studies at Georgia State University, “All-hazards means adaptable plans that provide the basis for dealing with a variety of hazards and disasters, including terrorism.”9

As with most other colleges and universities where a very open environment and minimal security and access regulations exist, UW has to deal with a variety of different natural and human-caused hazards (e.g., earthquakes, severe storms, hazardous material release, or terrorism) and vulnerabilities (e.g., older facilities, transient populations, unique research). Yet results from the 2002 UW Hazard Identification and Vulnerability Assessment (HIVA) demonstrated that many of the hazards affecting the university could be diminished by basic mitigation steps. Given that resources are scarce at the local and state level, efforts and funds must be directed toward a more sustainable model that encompasses the all-hazards approach.

UNIQUE CHALLENGES

While managing a university EM program is similar to that of a municipality, there exist a number of unique challenges in dealing with an academic institution:

1. Selling the benefits of EM can be a challenge in the halls of learning but one that
is very much needed and appreciated. Academic acceptance of the concept of EM requires teamwork and consensus-building in an institution that makes many of its decisions via committees and workgroup structures.

2. Shifting the way of thinking during an emergency where decisions need to be made quickly is difficult within the consensus-building culture of a college or university.

3. A culture of disconnection exists between the academic and operational side of an institution in communicating the EM activities of the university. Currently, no formal standards or structures exist to invite the academic interests to participate in mitigation and preparedness efforts.

4. There are no national standards for business continuity and resumption planning in higher education institutions, whereas the private sector such as banks, telecommunications, and insurance industries are mandated by federal law to have such plans in place. The lack of policies or plans makes the research and critical-business functions particularly vulnerable to suffering huge losses, some of which may be unrecoverable. In the instance of the UW Urban Horticulture Center, on May 21, 2001, just after 3:00 AM, the center was fire bombed causing $4.1 million in damage. Faculty, staff, volunteers, and over 40 graduate students lost books, papers, research, and workspace. The four laboratories and much of the equipment were damaged beyond repair, along with library books, records, and computers.

5. The shortage of campus space can make it difficult to have a designated emergency operations center (EOC). In most instances, EOCs are multiple-use facilities or spaces used for classes or storage. At the UW, the EOC is shared with the Women’s Center and surplus storage and is located in a structure built in 1918 on pilings over water.

6. It is difficult to train staff and faculty where limited release hours and union bargaining rights need to be considered when offering specialized trainings. According to the UW release policy, an employee has a maximum of 24 hours per quarter released from normal work duties and must be compensated at the regular rate of pay to attend staff training and development programs designed to assist in developing or improving job skills. For instance, the UW EM office recently received a grant to provide Campus Emergency Response Team (CERT) training for up to 30 staff. To become a CERT member requires up to 30 hours of training. Although this is a pilot program, if it is expanded in the future, release hours and union issues will need to be addressed.

7. Training students to respond to disasters is a lost opportunity, because in two to four years they graduate and leave the institution. Yet students, as well as other members of the campus community, are particularly vulnerable to injury from events, either directly from falling objects during an earthquake or as a result of performing a heroic action while attempting to save lives. This reinforces the need to focus scarce resources where they have the most impact.

THE FUTURE OF EMERGENCY MANAGEMENT AT COLLEGES AND UNIVERSITIES

It is important to recognize the unique aspects involved in living and working near a college or university. Not only are these institutions responsible for
education, but, for many, they provide valuable research and countless public services to their respective communities. Many local emergency managers recognize and support the efforts of their counterparts who work at neighboring colleges or universities. A fully prepared institution of higher learning can be a formidable asset to its surrounding community because it can provide specialized expertise and skills as well as resources and facilities (e.g., shelters or emergency medical services).

As programs develop, the future of EM at colleges and universities needs to be further defined. Some recommendations that have emerged out of the first year of the UW Office of Emergency Management are:

1. Adopt an all-hazards approach: Although federal funding currently available to institutions of higher education has been focused on terrorism, most institutions should plan for all hazards.

2. Practice: Developing an EM response plan and testing it to the EOC provides great opportunities to find and modify the weaknesses in the response structure, and it provides an opportunity to train with other units within the campus structure.

3. Improve campus and community partnerships: It is important to involve other campus stakeholders in the process. This includes obtaining support from other administrators, faculty, staff, and students. Create a small advisory group made up of campus experts who are willing to actively participate and have a sense of ownership in the EM program. Also involve and inform the surrounding community, municipality, and county in campus EM activities. This provides added opportunities such as sharing their resources and networks.

4. Understand potential losses and manage the risks: The UW Office of Emergency Management intent is to work with other units on campus to prevent loss of life and injury from structural, nonstructural, or utility failures caused by natural or man-made disasters and to assist units in sustaining operations after an event. To accomplish these goals, the university must decide how to adequately measure risks.

5. Encourage business continuity planning: In order to resume instruction, research, and public service activities within a certain time period after a disaster, it is imperative for all academic and operational units to undertake business continuity planning. This includes planning for alternate or backup computer information systems and vital records management, backup power and water supplies, and developing a structure to rapidly restore infrastructure.

6. Promote champions: There must be broader commitment from executive management personnel to support the programs, policies, and budgets; to implement many of the risk reduction strategies; and to advance structural and nonstructural mitigation projects institutionally.

**Conclusion**

UW has been the beneficiary of a national movement in which colleges and universities have established independent offices to coordinate disaster mitigation, preparedness, response, and recovery activities. Moreover, during the first year of its implementation, UW has demonstrated that it has the capability to effectively organize its resources and to develop an all-hazards approach when dealing with natural and human-caused disasters. Current trends in college and university EM programs include maximizing the opportunities to apply for funding at the national level, increasing emergency information sharing within the campus community, and developing more proactive methods.
for coping with large-scale disasters. Unique challenges exist when establishing a program that makes it difficult to adopt a community or city model.

Colleges and universities are repositories of knowledge and learning for EM. In addition, they provide some of the best tools available to assist in establishing or strengthening their own operational programs in order to become better prepared for any type of disaster.

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REFERENCES