The Past as the Future of Emergency Preparedness and Management

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ABSTRACT

Emergency preparedness, planning, and response suffer from shortcomings that impede the potential for effectiveness. In this article, we provide an overview of Emergency Preparedness and Management that is based upon our research, including insights into the shortcomings of current practices, a discussion of relevant theories (e.g., High Reliability Organizations, muddling through) and recommendations to promote more effective planning, management, and response. Our recommendations include system support for the principles of High Reliability Organizations and muddling through, rethinking risk analysis to have a longer-term view and reflect more than just monetary loss, creating ways to better inform and involve the public, and encouraging collaboration and collective intelligence through such means as a dynamic Delphi voting system.

Keywords: Delphi; emergency management; high reliability organizations; public participation; risk analysis

INTRODUCTION

It is our intent in this article to provide an overview of Emergency Preparedness and Management that is based upon our prior work in this area. To start with, we first summarize the findings of a major U.S. government study on Disaster Preparedness because they are very relevant to the motivation of our work (Turoff et al. 2004a, 2004b) and the observations and recommendations that follow. The purpose of this report was to identify the key areas needing

improvement throughout the U.S. for improving Emergency Preparedness and Management. We will first itemize these concerns in terms of words taken directly form the initial summary of findings study (pages 3 to 6):

Planning is essential for any region or community likely to be affected by a disaster, in order to determine what preventive and protective measures can and should be taken before and at the time of a disaster. Planning requires cooperation from all levels of government... To be confident that disaster planning is preparing government officials, volunteers, and the public to cope better with disasters, such plans must be exercised and evaluated.

Vulnerability analysis is a prerequisite to effective disaster preparedness. The variety in types and frequency of natural disasters and the differences in effect and damage make it clear that an assessment of vulnerability must be made for each community as a first step in formulating regulations, plans, and programs to reduce hazards and prepare for disasters.

The reduction of hazards and preparedness for disasters are government responsibilities as well as the concerns of every citizen. For this purpose there must be ... appropriate **disaster legislation** for all levels of government.

Public awareness of the threats posed by the various natural disasters is essential to preparing for them and reducing their destructive effects.

The value of past investment in **prediction and warning capabilities** is clearly demonstrable. Despite the increasing property losses, there has been a notable decline in lives lost when such capabilities have been established and used.

The objective of **mitigation** is to find ways to reduce the vulnerability of people and property to damaging effects. ... there is a need for a national program involving Federal, State, and local jurisdictions in avoiding the mistakes of the past and in gaining fuller consideration of natural hazards in regulating land use and construction.

The main focus of **emergency response** to major disasters should be: (1) to expand routine emergency services, such as police, firefighting and sanitation; (2) to provide those things which the individual citizen takes care of by himself in normal times but which have been interrupted by the disaster, such as food, housing, and personal welfare; and (3) to make special provisions for medical care. ... There is a favorable benefit-cost ratio in taking early measures when a disaster is imminent.

Research on the causes and characteristics of natural disasters and for the protection of people and property holds great promise and is a national imperative. The most immediate need is to apply the scientific and technological knowledge already existing. The sheer number and variety of disaster related research activities in the government and private sectors now make it difficult to coordinate and integrate these activities.

This report to the US Congress, titled Disaster Preparedness, was published by the Office of Emergency Preparedness (OEP) in the Executive Office of the President in January 1972. This extensive report was inspired by General George A. Lincoln who was director of OEP, an executive office agency which was scheduled for elimination in 1973 along with the Office of Science and Technology. The final quote included is a few words from the director's letter to the U.S. Congress.

The main thrust of this report points to the need for improvement in disaster preparedness at all levels. ... Disaster preparedness is a task never completed. It represents an unbroken chain stretching from the prevention though ultimate recovery and requires continuous effort at all levels of government.

The words of this report, with the inclusion of man-made disasters as well as natural ones, appear to be just as true today as they were in 1972. Within the context of the above requirements the authors are going to review some of the recent work that addresses these concerns, roughly following the topics in the report as summarized above. We will review the continuous planning cycle for emergency

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