CHAPTER 16

Businesses and Disasters: Vulnerability, Impacts, and Recovery

Kathleen J. Tierney

As units of analysis in disaster research, businesses have only recently begun to be studied. Far more research has been conducted on public sector organizations such as local emergency management agencies, public safety agencies, and other governmental organizations. Researchers studying the economic impacts of disasters have tended to focus on units of analysis that are larger than individual firms and enterprises, such as community and regional economies. Until fairly recently, very little was known regarding such topics as business vulnerability, loss-reduction measures adopted by businesses, disaster impacts on businesses, and business recovery. Systematic research was lacking despite the singular importance of businesses for society. Private businesses provide a vast array of goods and services that literally make life possible in our complex global economy. A recent governmental report on the U.S. critical infrastructure points out that “[t]he lion’s share of our critical infrastructures and key assets are owned and operated by the private sector” (White House, 2003, p. 32). Businesses are the foundation of local, regional, and national economies; when businesses are affected by disasters, that disruption produces not only direct business losses, but also indirect losses and economic ripple effects. Destruction of and damage to businesses, along with disaster-related closures, result in the loss of jobs, negatively affecting incomes and creating even greater challenges for households, neighborhoods, and communities as they attempt to recover from disasters. After disasters, business owners face a host of challenges, including how to finance business recovery, and often how to cope simultaneously with damage to both business and residential property. Disasters can produce both psychological distress and additional debt burdens for business owners. At the community level, business destruction and damage can result in lost tax revenues for communities and can undermine the viability of business and commercial districts.

1 In the United States, the “critical infrastructure” is defined as composed of the following elements: agriculture and food; public health; emergency services; the defense industrial base; telecommunications; energy; transport; banking and finance; chemical production and hazardous materials; and postal and shipping enterprises. It is commonly said that about 85% of the U.S. critical infrastructure is in private hands.
This chapter reviews social science research on businesses and disasters, focusing on business vulnerability, the ways disasters affect business operations, and post-disaster business recovery. In this discussion, the term business is used to refer to organizations that are operated for profit, as opposed to public sector and nonprofit organizations. The term applies to a range of business types, including sole proprietorships, partnerships, and corporations, irrespective of the goods and services they supply, and whether they do business in one location (establishments) or multiple locations (enterprises). The concept covers both large and small businesses, including owner-operated businesses with no employees. The chapter is heavily weighted toward U.S. research and to English-language publications, in part because of the attention U.S. researchers have paid to disaster-related business issues. The chapter closes with recommendations for future research, including a recommendation centering on the need for more systematic, comparative research on these issues.

**BUSINESS VULNERABILITY TO EXTREME EVENTS**

**How and Why Businesses Are Vulnerable to Disasters**

Business vulnerability to disasters stems from a variety of interrelated factors that include physical location, the conditions under which businesses operate, and business and community characteristics. Consistent with the *social vulnerability* paradigm, business vulnerability can be thought of as stemming not only from exposure to the potential physical impacts of hazards, but also from societal conditions and trends that render certain businesses and types of businesses less able to cope with “environmental shocks,” including disasters (Cutter, 1996; Cutter, Mitchell, & Scottal., 2000; Dahlhamer, 1998). Vulnerability thus has both physical and social dimensions; like communities and households, businesses are differentially vulnerable to disaster impacts.

**Vulnerability of Place**

In the most general sense, business vulnerability to disasters is related to the hazardousness of the locations in which business and economic activity take place. Around the globe, many primate cities and “megacities”—the urban places that serve as economic engines for entire societies—are located in areas with high hazard exposure. Tokyo, Istanbul, Caracas, Manila, and Tehran are examples (Parker & Mitchell, 1995; Solway, 1994; Wisner, n.d.). In the United States, many cities that account for a substantial amount of the nation’s economic activity, including Greater Los Angeles, Miami, Houston, San Francisco, and New York City, are vulnerable to both natural disasters and terrorist attacks. When hurricane Katrina struck Mississippi, Alabama, and Louisiana, it resulted in the closure of tens of thousands of businesses, the shutdown of one of the nation’s busiest ports, and massive disruption of the petrochemical industry in the impact region. Just weeks later, Hurricane Rita threatened comparable impacts for Houston and the oil facilities in the western Gulf of Mexico.

While virtually all communities are vulnerable to hazards to some degree, within individual communities some locations are more vulnerable than others. However, business owners are typically more concerned about finding the best locations for generating business revenues