

EXTREME NATURAL EVENTS: SOME ISSUES FOR PUBLIC POLICY*

Rutherford H. Platt

University of Massachusetts, Amherst

INTRODUCTION

Worldwide, the insured and uninsured costs of weather-related extreme events reached an estimated record of \$92 billion in 1998, according to Munich Reinsurance and the Worldwatch Institute, more than 50 percent greater than the previous peak year of 1996, and more than the entire decade of the 1980s (Abramovitz, 1999). The toll is much higher when non-weather disasters are considered. The January 17, 1995 earthquake in Kobe, Japan caused an estimated US\$100 billion in damage, and over 6,300 deaths (Burby, 1998, 2). In the United States, Mileti et al. (1999, p. 66) estimate that “a conservative estimate of the actual average dollar losses from 1975 to 1994 is roughly \$500 billion, or about a half billion dollars per week.”

Federal disaster assistance--including preparation, response, recovery, and mitigation--has been provided more frequently and at substantially rising cost to the nation in recent years. During the 1990s, the Bush and Clinton Administrations issued 460 major disaster declarations, more than twice the number for the 1980s. FEMA outlays for the 1990s under those declarations surpassed \$25 billion, more than six times the total of \$3.9 billion in disaster assistance during the 1980s (in current dollars) (FEMA website).

The real costs of natural disasters are even higher when indirect or “hidden” costs are considered. A recent study by the Heinz Center in Washington, DC, attempted to identify (without quantifying) the full range of overt and hidden costs for Hurricane Hugo, from the perspective of ten years after the event. The tabulation included business disruption, social costs to individuals and families, and environmental costs to natural resources, as well as the administrative or “overhead” costs of administering assistance at all levels of government (See Table 1).

Cutting to the quick, the following are a few significant policy issues for research on public response to natural disasters in the United States.

NATURAL DISASTER POLICY ISSUES

Cross-Purposes Among Programs

Over the past fifty years, the United States Congress has created a legal edifice of Byzantine complexity to cope with natural disasters. The federal disaster apparatus includes laws, agencies, programs, policies, and strategies, many of them intended

* This discussion paper was prepared for presentation at the Extreme Events Workshop, Boulder, Colorado, June 7-9, 2000. The author is professor of Geography and Planning Law in the Department of Geosciences, University of Massachusetts at Amherst: platt@geo.umass.edu; www.umass.edu/ecologicalcities

to operate in “partnership” with state and local governments, nongovernmental organizations, and the private sector. Federal assistance is provided under approximately fifty different laws and executive orders to households, businesses, farms, states, municipalities, special districts, and nongovernmental organizations (May and Deyle, 1998, 67; Platt, 1999, 277). But the federal role is even more complicated. Many government spending programs such as highway construction, economic development incentives, housing, shoreline stabilization, brownfield remediation, and Superfund outlays may undercut the goals of hazard mitigation by indirectly sponsoring development and redevelopment in areas of known hazard.

Self-Reliance

A number of U. S. disaster policy reviews have charged that the federal government discourages state, local, and individual self-reliance and prudence by offering federal disaster assistance too readily. (U.S. Senate Bipartisan Task Force on Funding Disaster Relief, 1995; National Performance Review, 1993; Sylves and Waugh, eds. 1996; Platt, 1999). Few would quibble about the need for federal assistance in true catastrophes involving billions of dollars in losses. But heavy rain and snowstorms, flash floods, and simply “bad weather” now seem to be eligible for federal assistance. Does the expectation of federal assistance discourage states and local governments from providing for their own needs? Presidential disaster declarations are political acts: there are virtually no objective criteria to limit their issuance. Some observers have charged that disaster assistance has become a new form of political “pork barrel” to transfer federal resources to localities beyond the strict requirements of compassion and clear need. (e.g., Wright, 1996, 251). (FEMA has recently proposed that local governments carry casualty insurance to defray part of the cost of damage to their infrastructure.)

Cost Sharing

Relating to the foregoing, the Federal Disaster Assistance Act (“Stafford Act”) specifies a 75/25 ratio of federal/nonfederal cost sharing of disaster assistance costs under a Presidential declaration. This is certainly favorable to recipient states and local governments. But in at least fifteen disasters during the 1990s, the President has raised the federal share to 90 percent (e.g. Hurricane Fran), or even 100 percent (Hurricane Andrew). This encourages local governments to request federal assistance for rebuilding damaged infrastructure at little or no cost to the local taxpayer.

Federal cost-sharing has declined or vanished for other sectors of public spending, such as wastewater treatment plants, parks and open space, and low income housing. Ironically, replacement of local infrastructure that would not normally qualify for federal cost-sharing may be eligible for a 75% federal grant if it is damaged in a declared disaster. Furthermore, there is no limit to funding available for disaster relief: Congress has repeatedly approved emergency “supplementary appropriations” of billions of dollars to cover the federal costs of particular disasters.

Hazard Mitigation

Since 1994, the Federal Emergency Management Agency (FEMA) has established a Mitigation Directorate, has issued a National Mitigation Strategy, and has launched several initiatives to stimulate community-level mitigation efforts (e.g., “Project Impact” in 1997). These are the latest in a long series of mandates, policies, and approaches to reducing vulnerability to natural disasters (Platt 1999, Ch. 3). After three decades of the National Flood Insurance Program, two decades since the formation of FEMA, and over one decade since the Stafford Act, there has been no systematic effort to evaluate the effectiveness of various approaches to flood hazard mitigation, let alone mitigation of other natural risks. The federal government, and particularly FEMA, are still struggling to define, achieve, evaluate, and improve their efforts in hazard mitigation. Despite abundant rhetoric, it remains unclear what mitigation really means, and who should pay for it.

Property Rights vs. the Public Interest

The United States since the mid-1980s has experienced an aroused “property rights movement.” Private property owners enjoy a certain measure of freedom from governmental control under the Fifth Amendment to U. S. Constitution which provides that “. . . no private property shall be taken for public use without just compensation.” This provision has been interpreted through court decisions to apply not only to literal taking of property but also to regulation of land use which is deemed excessive or arbitrary. On the other hand, the protection of the public health, safety, and welfare requires that government be able to restrain “unreasonable” use of private property through land use and building controls without paying compensation to the owner (Platt, 1999, Ch. 5).

These two competing interests--private economic gain vs. public interest--have struggled with each other throughout the 20th Century. While courts have generally upheld hazard area regulations, a highly publicized decision of the U. S. Supreme Court (Lucas v. South Carolina Coastal Council 112 S. Ct. 2886, 1992) held that denial of a building permit on an eroding coast required

compensation to the owner. This caused many public officials to reconsider regulations to limit building in hazardous areas, although few others have been held invalid by courts (Platt, 1998). Whatever the legal significance of the Lucas decision as a precedent, it has undoubtedly cast a broad cloud over environmental and hazard area land-use regulations in the United States.

Sustainable Redevelopment

Disasters are often viewed as “windows of opportunity” to rebuild more safely than before. The United States, however, usually tends to rebuild after disasters as quickly as possible, often recreating or worsening the level of vulnerability that allowed the disaster to happen. At Oakland, California, for instance, after the destruction of 3300 homes in a 1991 wildfire, the burned area was substantially rebuilt with even larger homes (albeit with more fire resistant roofs and landscaping), even though a major earthquake has been forecast for the Hayward Fault that lies just downslope from the reconstructed area (Platt, 1999, Ch. 8). Coastal homes similarly are rapidly replaced after hurricane damage, as in North Carolina after several hurricanes in recent years.

A major challenge for the U. S. and other countries, thus, is to apply the resources of disaster recovery to the reduction of future vulnerability. Building more strongly, as in earthquake retrofitting, and elevation of coastal structures are currently promoted by FEMA. But the will to prevent any rebuilding in areas of clear and continuing risk is required. While politics drives the disaster assistance program, it should not be allowed to deter necessary adjustment to settlement patterns and infrastructure to achieve outright reduction of vulnerability. And, as mentioned earlier, the costs of such intervention should not be entirely federal. Potential victims--communities and property owners--should be required to contribute to their own protection by refraining from repeating past mistakes.

Social Equity

Federal disaster benefits available to victims of U. S disasters, on the whole, are directed towards individuals with economic assets at risk. The National Flood Insurance Program covers losses to insured structures and their contents due to floods. While tenants may purchase contents insurance, most coverage under the NFIP protects real estate owned by the policy holder. Similarly, Small Business Administration low-interest disaster loans are extended to individuals and businesses who qualify in terms ability to repay. There is no needs-based test or sliding scale. for Public Assistance (PA) to reimburse local governments for their disaster costs. While little research has been directed to the issue, it appears that PA is substantially allocated to communities that

are capable of dealing with the federal bureaucracy and are able to contribute towards the nonfederal cost share. Low income communities, particular unincorporated areas of urban or rural poverty, are likely to receive less public assistance per capita than more affluent areas.

In contrast to other federal disaster programs, Individual Assistance (IA) --including temporary housing, unemployment payments, and certain other benefits--is needs-based. Grants to families and individuals are intended to help them “meet those disaster-related necessary expenses or serious needs for which assistance from other means is either unavailable or inadequate” (44 Code of Federal Regulations Sec. 206.131). Any insurance coverage available to the victim is deducted from the grant. Furthermore, grants may not be used for the “purchase of items or services which may generally be characterized as nonessential, luxury, or decorative” (Ibid.). In other words, federal assistance to low income disaster victims is intended only to meet their minimal needs, not improve their condition in life. No such qualifications are attached to any other form of federal disaster benefits. A parallel may be drawn with U. S. federal housing policy under which generous tax subsidies are provided for middle and upper class homeowners but the poor are placed on waiting lists for access to subsistence-level housing in depressing surroundings.

The moral for disaster policy-makers is that the commendable goal of “making people whole” after a disaster may result in very different sets of benefits being offered in relation to the recipient’s socioeconomic status: The more you have at risk, the more you are eligible to receive from the government after a disaster. This policy ignores the reality that the less you have, the more you may suffer from disaster in terms of personal, emotional, social, and economic impacts (Peacock, Morrow, and Gladwin, 1997). In other words, those with the least resources are the most vulnerable to natural disasters.

REFERENCES

- Burby, R. J. 1998. “Natural Hazards and Land Use: An Introduction” in R. J. Burby, ed. Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities. Washington, DC: The Joseph Henry Press, pp. 1-26.
- Heinz Center (The H. John Heinz III Center for Science, Economics and the Environment), In Press. The Hidden Costs of Coastal Hazards: Implications for Risk Assessment and Mitigation. Washington, DC: Island Press
- May, P. J. and R. E. Deyle, 1998. “Governing Land Use in Hazardous Areas with a Patchwork System” in R. J. Burby, ed., Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities. Washington, DC: Joseph Henry Press.
- National Performance Review. 1993. Creating a Government that Works Better and Costs Less: FEMA. Washington, DC: Office of the Vice President of the United States.
- Peacock, W. G., B. H. Morrow, and H. Gladwin. 1997. Hurricane Andrew: Ethnicity, Gender, and the Sociology of Disasters. London: Routledge.
- Platt, R. H. 1998. “Planning and Land Use Adjustments in Historical Perspective” in R. J. Burby, ed., Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities. Washington, DC: Joseph Henry Press. pp. 29-56.

- _____ 1999. Disasters and Democracy: The Politics of Extreme Natural Events. Washington, DC: Island Press.
- Sylves, R. T. and W. L. Waugh, Jr. 1998. Disaster Management in the U. S. and Canada. Springfield, MA: Charles C. Thomas, Publisher, Ltd.
- U.S. Senate Bipartisan Task Force on Funding Disaster Relief. 1995. Federal Disaster Assistance. Washington, DC: U. S. Government Printing Office
- Wright, J. M. 1996. "Effects of the Flood on National Policy: Some Achievements, Major Challenges Remain" in S. A. Changnon, ed., The Great Flood of 1993: Causes, Impacts, and Responses. Boulder, CO: Westview Press.

Table -- DIRECT AND "HIDDEN" IMPACTS OF NATURAL DISASTERS

Type of Impact	Non-Federal				Federal				
	Non-Reimbursed	Private Insurance	NGO	State	NFIP	SBA	FEMA IA	FEMA PA	Other Federal
Built Environment									
Private	XXX	XXX			XXX	XXX			
Public	X	X		X				XXX	
Business: inventory; interruption	XXX	XXX	X			XXX			
Individuals: life, health; economic	XXX		X				X		X
Natural Resources	XXX								
Agricultural	XXX	X							XXX
Admin. Costs ("overhead")									
Local	X	X		X				XXX	
State	X							XXX	
Federal	XXX				Federal Administrative Costs Absorbed by Relevant Program or Supplementary Appropriation				

XXX = Major Cost Environment ,

X = Minor Cost

NGO = Nongovernmental Organization
 NFIP = National Flood Insurance Program
 SBA = Small Business Administration
 FEMA IA = Individual Assistance (Stafford Act)
 FEMA PA = Public Assistance (Stafford Act)

Adapted from: Heinz Center for Science, Economics, and the
The Hidden Costs of Coastal Hazards (Island Press, 1999).