A Framework for Analyzing Emergency Management with an Application to Federal Budgeting

Amy K. Donahue; Philip G. Joyce

Public Administration Review, Vol. 61, No. 6. (Nov. - Dec., 2001), pp. 728-740.

Stable URL:
http://links.jstor.org/sici?sici=0033-3352%28200111%2F12%2961%3A6%3C728%3AAFFAEM%3E2.0.CO%3B2-C

Public Administration Review is currently published by American Society for Public Administration.

Amy K. Donahue
University of Connecticut
Philip G. Joyce
The George Washington University

A Framework for Analyzing Emergency Management with an Application to Federal Budgeting

Emergency management is a complex policy subsystem that involves an intergovernmental, multiphased effort to mitigate, prepare for, respond to, and recover from disasters. This article develops a framework for analyzing the fiscal and functional aspects of disaster policy. It uses established theories of intergovernmental relations to offer a rationale for examining the capabilities required to implement disaster policy and the behavioral incentives that drive policy formulation. In particular, the article identifies the extent to which the capabilities and political objectives characteristic of each level of government are aligned, and illustrates the interplay between incentives and competencies by reviewing the federal disaster funding process. The current rules for federal budgeting may inappropriately promote spending on disaster response and recovery, while de-emphasizing mitigation and preparedness. Various proposals for reform could establish more coherent incentives, making disaster spending more consistent with the relative functional capabilities of the various levels of government.

Disasters are calamitous natural or human-caused emergency events that suddenly result in extensive negative economic and social consequences for the populations they affect. While disasters vary in scale, all threaten the general welfare of some populace; thus, government intervention to minimize the negative consequences of disaster and—ultimately—to restore order, is warranted and expected. As Schneider asserts, "When a natural disaster occurs, few people stop to ask whether the government *should* intervene. Instead, citizens tend automatically to view the situation as a serious *public* problem requiring immediate *governmental* action" (1995, 9). In the United States, government involvement in emergency management has evolved through time into a complex policy subsystem.[2] Implementation of disaster policy is the province of a public administrative function known as emergency management,[3] the modern approach to which involves a multidimensional effort to reduce the threat of the occurrence and the magnitude of disasters and to prepare for, respond to, and recover from those that do occur.

Emergency management presents a formidable challenge for governments because of the extraordinary demands these events impose on the decision-making and service-delivery systems of the communities they affect. By definition, disasters exceed the capacity of the governments whose jurisdiction they strike. That is, the needs of the community during a disaster overwhelm the administrative and resource capabilities of the community's government and, as Granito notes, dealing with disaster "requires outside resources and the abandonment of the usual organizational routines" (1995, 44).

In the context of a federally structured government, when the capacities of government jurisdictions at lower levels

Amy K. Donahue** is an assistant professor in the political science department at the University of Connecticut, where she teaches intergovernmental relations and bureaucratic theory. She has 18 years of experience with emergency services organizations. **Email: donahue@uconnvm.uconn.edu.

Philip G. Joyce** is an associate professor of public administration at The George Washington University, where he teaches courses in public budgeting and finance. From 1991 through 1995, he served on the staff of the U.S. Congressional Budget Office. **Email: pgjoyce@gwu.edu.

are overwhelmed, higher levels are called upon to assist, either by supporting or supplanting the activities of the subordinate jurisdictions. As a result, emergency management is intrinsically an intergovernmental policy-implementation challenge. This article considers the complex and sophisticated, but not necessarily coherent, approach to intergovernmental policy implementation that has developed for managing disasters. It argues that the cost and effectiveness of disaster-response efforts are fundamentally driven by the characteristic capabilities and objectives of the particular level of government that is assigned or that assumes responsibility for conducting various emergency management activities.

This article will be presented in two main parts. The first part briefly reviews the nature of disasters, explains why it is hard for governments to manage them effectively, and describes the modern approach to emergency management that prevails in the United States. The discussion then reviews established theories of intergovernmental relations and consolidates these into a conceptual model of how emergency management roles should be distributed among governments. Next, the article evaluates the extent to which the functional competencies and behavioral incentives characteristic of the legislative and executive bodies at each level of government appear to be aligned with emergency management. The second part of the article will illustrate the interplay between incentives and competencies by examining an important dimension of emergency management, the federal disaster-funding process. The article will conclude by identifying some policy dilemmas in the field of emergency management that present avenues for future research in light of the conceptual framework developed here.

The Nature of Disasters and Disaster Management

A broad literature about emergency management and disaster policy has sprung up in recent years, spurred in particular by the 1985 *Public Administration Review* symposium "Emergency Management: A Challenge for Public Administration," and by the perceived failures of the Federal Emergency Management Agency (FEMA) in responding to hurricanes Hugo in 1989 and Andrew in 1992. This literature includes detailed discussion of the economic, political, and social costs of disasters (see for example, Schneider 1992; Settle 1985); the dimensions of emergency management (McLoughlin 1985); the distribution of the burdens and responsibilities of emergency management among actors at various levels of government and across sectors of society (Waugh 1994); and the nation's changing disaster-response capacity as embodied in FEMA (Godschalk et al. 1999; Schneider 1992; Sylves 1994; Wamsley and Schroeder 1996).

While almost every piece of work references the intergovernmental nature of disaster management—and indeed, some focus on this phenomenon directly (Mushkatel and Weschler 1985; Rubin and Barbee 1985)—none attempts to explicitly apply the available theories of intergovernmental relations to emergency management. One contribution this article makes is to explicate the linkage between key intergovernmental relations principles and the conduct of multifunctional emergency management in an intergovernmental context, thereby providing a clearer framework for future analysis of the fiscal, regulatory, and functional aspects of disaster policy at each level of government.

The paramount goal of disaster management is to moderate, as much as possible, the degree to which a community's condition is worsened by a disaster. Governments and their disaster managers undertake many actions to support this goal, both pre-disaster (to forestall potential damage) and post-disaster (to correct actual damage). These efforts, however, are often hampered by some key characteristics of disasters that make them hard to overcome. First, disasters are large-scale, rapid-onset incidents relative to the size and resources of the affected jurisdiction. That is, they harm a high percentage of the jurisdiction's property or population, and damage occurs quickly relative to the jurisdiction's ability to avert or avoid it. As a result, coping with them drains most, if not all, of the jurisdiction's manpower, equipment, supplies, and money. Also, disasters are uncertain with respect to both their occurrence and their outcome. Hazards that present a threat of disaster are difficult to identify, the causal relationship between hazards and disaster events is poorly understood, and risks are hard to measure (Lewis 1988). Finally, disasters occur relatively infrequently. Most communities experience few, if any, disasters during the average tenure of a political official or the average citizen's time of residence. These inherent qualities of disasters leave governments in a quandary about whether, when, and what action to take to manage them. Resolving this dilemma is problematic because, as Waugh (1988) explains, disaster policy fails Mazmanian and Sabatier's (1983) tests for successful policy implementation: Disasters are largely intractable problems that cannot easily be addressed by statutes that assign necessary resources and clarify lines of responsibility and that are subject to powerful nonstatutory variables such as the level of public support, available administrative and leadership skills, and reigning socioeconomic conditions.

The scale, uncertainty, dynamism, and infrequency of disasters constitute the preconditions for intergovernmental intervention; modern disaster response has, over time, evolved into an array of activities that have been identified, defined, assigned to responsible parties, and coordinated across governments (Schneider 1995). Today, the field of emergency management generally categorizes these

activities according to a broad framework first developed in 1979 by the National Governors' Association during its study of emergency preparedness. This approach, known as comprehensive emergency management (CEM), specifies four phases of modern disaster management.

1. **Mitigation**—Activities undertaken in the long term, before disaster strikes, that are designed to prevent emergencies and reduce the damage that results from those that occur, including modifying the causes of hazards, reducing vulnerability to risk, and diffusing potential losses.
2. **Preparedness**—Activities undertaken in the shorter term, before disaster strikes, that enhance the readiness of organizations and communities to respond to disasters effectively.
3. **Response**—Activities undertaken immediately following a disaster to provide emergency assistance to victims and remove further threats.
4. **Recovery**—Short- and long-term activities undertaken after a disaster that are designed to return the people and property in an affected community to at least their pre-disaster condition of well-being. (FEMA 1997)

Shortly after the publication of the National Governors' Association report, FEMA, as the nation's newly formed lead agency for implementing national disaster policy, developed what remains today as the integrated emergency management system (IEMS), a functionally oriented, all-hazards, intergovernmental implementation strategy for comprehensive emergency management. Key activities and functions that take place during each phase of emergency management are identified in the appendix. To set the stage for examination of this system, the next section reviews the rationale for intergovernmental policy structures.

Intergovernmental Relations Theory

The configuration of fiscal and functional relations among governments in a federal system hinges on the answer to a fundamental question: Which level of government should be assigned responsibility for performing and funding various public functions? This section very briefly considers two broadly accepted conceptual approaches to intergovernmental relations that offer complementary explanations for the distribution of responsibilities among levels of government: fiscal federalism, and Peterson's functional and legislative theories of federalism. Then, since these models provide no a priori formula for assigning public management roles and responsibilities, the next section applies them to develop a theoretical approach to allocating modern disaster-management functions.

Fiscal federalism, as conceived by Musgrave (1959), provides broad justification for fiscal intervention by governments under specific circumstances of market failure. Of particular relevance, this perspective suggests two important circumstances in which grants-in-aid from higher levels of government to lower levels are justified. One case occurs when externalities induce a government to underproduce a service, unless a compensatory mechanism exists by which the government can internalize the benefits that spill over into other jurisdictions. The other case arises when fiscal disparities are present across jurisdictions, under which circumstance grants to resource-poor localities are an appropriate alternative to the economically optimal (but infeasible) solution of adjusting jurisdictional boundaries to equalize wealth and service capacity.

Applying a different but consistent lens, Peterson's (1995) theory of functional federalism identifies distinct areas of competence for each level of government in which it should expand, while reducing involvement in areas where it offers no comparative advantage. Peterson asserts that developmental programs (those involving the provision of physical and social infrastructure) should be the purview of lower levels of government, because they are more exposed than national government to the economic signals conveyed by citizen-consumers about the quality and level of public services; thus they can be more efficient, innovative, and responsive to citizen choice. Redistributive programs (those designed to reallocate resources among groups of people) should, on the other hand, belong to higher levels of government because local governments have relatively open economies, making local-level redistributive programs ineffective. Peterson acknowledges that, in some cases, developmental policy can benefit from the uniformity and common framework that arise when it is implemented on a national scale. That is, when national standards are justified to support the economic health of the entire country, national government should assume a role in developmental policy.

Our review thus far suggests what each level of government *should* do in light of its capabilities in a competitive economy. It ignores the political nature of that economy, however. In fact, developmental and redistributive policies are promulgated by actors who are elected or appointed in the context of a representative democracy; therefore, they can be expected to respond to various pressures exerted by their constituents. In short, public officials are likely to have incentives to respond to needs and circumstances in ways unrelated to the particular competencies of a given level of government. Peterson's explanation for this behavior, which he calls "legislative theory," assumes that elected officials are motivated primarily by their desire to be reelected, and they seek to curry favor with their electorate by providing them tangible benefits for which the officials can claim credit. Simultaneously, elected officials attempt to shield their constituents from the costs of pub-

lic programs and projects by funding these costs at the national level, diffusing the fiscal burden over the largest possible population. The goal of reelection creates incentives for public officials to behave in two problematical ways. First, they cause the national government to inappropriately assume developmental responsibilities.[4] Second, even as they usurp responsibility for developmental tasks, federal legislators tend to impose the financial and technical burden of other, more appropriately national, tasks on lower levels of government. In short, Congress tends to devolve responsibility for those tasks that do not present clear opportunities to distribute benefits to constituents.[5]

Allocation of Emergency Management Functions

In light of contemporary intergovernmental theory, the practical challenge of emergency management in an intergovernmental system is how to implement all four IEMS phases across all levels of government. Following Musgrave and Peterson, we argue that the assignment of responsibility for the various activities of each phase of emergency management has evolved in response to two key forces: functional competencies and behavioral incentives. The term "functional competencies" refers to those activities that a given level of government is best equipped to accomplish. "Behavioral incentives," meanwhile, are the imperatives, desires, and objectives to which each group of government actors responds.

We posit that when a particular government's competencies and the incentives of its officials are aligned, then governments are galvanized to do what they can do best, and policy can be expected to be more coherent and effective. Conversely, when a government's actors are motivated to undertake activities other than those it is best able to perform, policy can be expected to be less efficient and effective in its formulation and implementation. To examine the extent to which functional competencies and behavioral incentives are aligned in the context of emergency management, we first contemplate what the intergovernmental relations theories reviewed above imply about how emergency management functions should be allocated in the American federal system.

Competency-Driven Behavior

Fiscal federalism suggests that grants from higher to lower levels of government are justified to correct fiscal disparities across localities. Fiscal disparities exist under ordinary conditions, lending credence to grants to support pre-disaster planning and preparedness activities in resource-poor areas. Differences in fiscal capacity are exacerbated under crisis conditions, when the needs of afflicted jurisdictions increase dramatically and their capacity is drastically diminished as tax bases are destroyed. Post-disaster response and recovery assistance is thus warranted.

Fiscal federalism also asserts that grants are justified when the benefits of emergency management activities undertaken by one jurisdiction are felt by others. This can occur at each phase of emergency management. For example, local mitigation efforts readily produce positive externalities. As hazards are rarely contained within political boundaries, several adjacent communities may be in danger from a single hazard. If one community undertakes projects to reduce such a hazard, surrounding communities are likely to benefit, and thus should bear some of the cost through tax-funded grants-in-aid awarded to the producer. Likewise, during the preparedness phase of emergency management, better trained and equipped communities are more capable of responding to disasters within their boundaries, and they are better able to assist other communities through mutual aid when they are afflicted by calamity. Finally, during the response and recovery phases, one area's actions to improve its condition also assists those nearby. For example, if one town is able to reopen its roads after a storm or earthquake, then travel to and from surrounding localities will likely be improved.

Considering Peterson's view on assignment of responsibilities, most emergency management functions can be considered developmental, because they strive to protect and enhance a community's capacity for economic growth by supporting its health and safety or by preventing or repairing damage to its physical systems. In other words, all phases of emergency management involve activities that aim to sustain or restore a community's pre-disaster condition, not to alter the distribution of wealth across communities.[6] Thus, functional theory suggests that most emergency management activities are best conducted at the local level, with some involvement from states to coordinate across local jurisdictions.

Peterson's model also suggests the national government's role in emergency management should be limited, since it is best suited to carry out redistributive policies, not developmental ones like disaster response and recovery. There are, however, some legitimate exceptions. For example, one development function the national government should appropriately assume is that of research and formulation of technical expertise. Emergency management is a specialized field that relies on knowledge that is expensive to acquire. Development of a detailed national emergency management information base permits economies of scale to be captured in knowledge acquisition, thereby improving the economic efficiency of disaster-related functions nationwide. Another example is the development and dissemination of a broadly-accepted approach to disaster management to facilitate interagency and cross-jurisdictional collaboration and coordination.

In sum, intergovernmental theory suggests the national government is most competent to develop a common emergency management framework supported by broadly accessible information and expertise. State governments, in turn, are best positioned to coordinate and allocate resources among government agencies and across local jurisdictions, and they are most able to protect and repair statewide systems of physical and social infrastructure. Finally, local governments can design and administer particularized physical and social infrastructure most efficiently. To the extent that the benefits of local activities spill over into other jurisdictions or that local costs and fiscal capacities are uneven, grants from higher levels of government should be employed to redistribute the positive and negative fiscal impacts of emergency management. The first column of table 1 shows how the activities and functions of each phase of emergency management should be assigned and how intergovernmental grants should be employed, if Musgrave's prescription and Peterson's functional theory are to be upheld in the practice of emergency management.

Incentive-Driven Behavior

Peterson's legislative theory posits that public officials are susceptible to a host of pressures, which they respond to in keeping with a wide array of motives. We term this "incentive-driven" behavior and, in the case of emergency management, such behavior manifests itself in a variety of ways. The second column of table 1 shows the activities and functions of each phase of emergency management that elected officials at each level would like to claim. Two key examples of incentive-driven behavior will be discussed briefly: the national-level incursion into local response and recovery activities and the set of mitigation activities historically relegated to local managers.

The response and recovery phases of emergency management involve highly visible activities that present attractive opportunities for elected officials to help their constituents in obvious ways (Schneider 1995). As a result, national government tends to behave more like local government by involving itself in response and recovery through a wide array of assistance programs. These programs include providing financial help in the form of

Table 1 The Alignment of Functional Competencies, Behavioral Incentives, and Policy in Emergency Management

Level	Phase	Functional Competencies	Behavioral Incentives	Disaster Policy Reality
National	Mitigation	• Intergovernmental grants • Research of hazard causes • Developing ways to modify hazards	• Promulgation of broad standards • Encouragement of local efforts	• Reviews/approves state projects • Technical assistance to states/localities • Funds to states and individuals
	Preparedness	• Intergovernmental grants • Development of a national EM system	• Promulgation of broad standards • Mandates for state plans	• Inspection, training, testing of plans • EM system formulation
	Response	• Intergovernmental grants and loans • Collection of disaster data	• Tangible assistance to communities • Tangible assistance to individuals	• Damage evaluation/needs assessment • Agencies ready to perform local tasks
	Recovery	• Intergovernmental grants and loans • Restoration of broad economic stability	• Funds for specific local projects	• Crisis counseling, legal assistance • Wide array of loans/assistance
State	Mitigation	• Hazard identification • Land-use planning/regulation of growth • Promulgation of construction standards	• Address more immediate needs • Encourage/mandate local efforts	• Solicits mitigation projects and funds • Establishes legal basis for local laws • Regulates land use and construction
	Preparedness	• Risk/hazard analysis and monitoring • Resource inventory and stockpiles • Disaster planning, training, and testing	• Encourage/mandate local efforts	• Develops state plan • Monitors/surveys potential hazards • Conducts training/testing
	Response	• Tangible assistance to communities • Interagency coordination • Damage assessment • Restoration of essential infrastructure	• Mobilization of state resources • Tangible assistance to individuals • Quick restoration of security/normality	• Executes state plan • May ask for FEMA's assistance • May seek presidential declaration • Coordinates resources across localities
	Recovery	• Restoration of infrastructure • Restoration of public services	• Secure funds from national government • Restoration of infrastructure	• Provides/administers relief funds to • Provides technical assistance
Local	Mitigation	• Adoption and enforcement of zoning • Enforcement of building codes • Retroengineering of buildings	• Address more immediate needs	• Implements projects • Enforces zoning and building codes • Undertakes hazard control efforts
	Preparedness	• Training and testing of local capability • Early warning and evacuation • Interagency and mutual aid plans	• Address more immediate needs	• Maintains resource inventories • Training of first responders • Public education
	Response	• Emergency communications • Search, rescue, and evacuation • Fire, medical, and police actions • Provision of food, water, shelter	• Immediate help to individuals • Stabilization of the situation • Prevention of further damage • Restoration of vital infrastructure	• Provides immediate help to individuals • Stabilize situation • Prevents further damage • Restores vital infrastructure
	Recovery	• Debris removal/repair of infrastructure • Repair of public and private property • Restoration of public services • Renewal of economic development • Restoration of individual health	• Secure funds from higher levels of govt. • Restore and improve tax bases • Regain economic development • Restore/improve public infrastructure • Restore public services	• Implements repairs of property • Restores infrastructure • Restores public services • Renews economic development • Restores public physical/mental health

grants, low-interest loans, social insurance, and tax relief, and they involve direct activities by representatives of various federal agencies, including providing services like transportation, debris removal, shelter, and counseling (FEMA 1997). At the same time, local governments still bear considerable responsibility for response and recovery efforts, but they may modify their activities in these areas to conform with federal criteria to secure as many resources as possible.

Viewed through the lens of Peterson's legislative theory, mitigation also poses a problem for government. To engage a government's attention, an issue must have political salience. Many authors have pointed out that because disasters are relatively infrequent, residents of most communities are unlikely to have recent experience with them, and thus governments feel little imperative to build their disaster-management capacity (Waugh 1988), even if the hazards and risks of disaster are real and formidable. Furthermore, uncertainty about the likely nature and magnitude of damage due to disaster makes the relationships between economic costs of disaster management and noncalculable benefits of loss that is averted or restored, and between present costs and future benefits, difficult to evaluate (Petak 1985). As a result, the incentive to be reelected can cause public officials to avoid mitigation, because it involves few tangible, recognizable benefits, and because it is unappealing to run for office on a "doomsayer" platform. So, while mitigation efforts would be strengthened by uniform standards and their overall economic cost would be reduced by nationalization, national-level officials prefer to impose mitigation activities on state and local governments through regulation.[7] Likewise, local governments—lacking both the political wherewithal to worry about events that may never occur and a clear rationale to expend limited dollars on technical expertise that may never be needed—prefer to shirk these costly responsibilities and concentrate on more pressing local problems.

Policy Reality: The Interaction of Competence and Motive

Emergency management is a policy subsystem involving a range of functions, each of which demands certain competencies and presents specific political opportunities through choices about the distribution of costs and benefits. In reality, the exigencies of emergency management are translated into a distribution of roles through the vagaries of the political bargaining process. Public officials do not allocate responsibility for the design and implementation of public policy on the basis of a comprehensive evaluation of the competency of each level of government, nor are they purely self-interested actors who ignore the imperative of the public's interest in efficient and effective government function. Thus, the result of the interaction between functional competencies and behavioral incentives for the actual conduct of the disaster policy subsystem is complex. The third column of table 1 identifies the activities of emergency management for which various governments typically assume or are assigned responsibility.

Table 1 makes evident that many aspects of contemporary emergency management practice are coherent applications of the fundamental principles of fiscal federalism and functional theory. If we accept Peterson's model, however, there are some striking imbalances in the assignment of functions that are more consistent with his legislative theory. In particular, national government is much more engaged in emergency management programs (response and recovery) than functional theory prescribes. Federal agencies perform many developmental activities during disaster response, albeit at the behest of afflicted localities. These activities are clearly local functions under Peterson's functional rationalization.

If Peterson's model were strictly applied, however, an important policy and fiscal paradox would arise: The local governments that should be expected to exercise discretion on behalf of their communities are those whose ability to do so is curtailed during a disaster—in a sense, the resources–responsibilities alignment that is archetypical of federalism under ordinary conditions collapses under disaster conditions. Thus, if local capabilities to perform their developmental missions are impaired or overwhelmed, what entity should intervene? Peterson does not address this directly, but it is evident from his discussion that should the national government continue to assume this role, it would be subject to the same forces that impair its ability to perform other developmental functions: It would tend to impose uniformity, it would respond slowly to signals about its effectiveness, and it would not be constrained to behave efficiently—pathologies that frequently have been a source of criticism of past federal disaster response. This suggests that a more coherent avenue of intervention may be comprehensive use of mutual aid agreements among states and localities, which would preserve developmental programs as local prerogatives, but cast the national government in more appropriate standard-setting and grant-making roles.

Of course, the danger inherent in restructuring disaster policy toward greater local involvement is that at a time when urgent, purposeful action is at a premium, confusion could ensue as independent localities rush to the aid of an area in distress. Clarity and efficiency are vital to successful disaster operations, and the particularism of local efforts could easily undermine these objectives. Here functional theory's prescription for states to act as cross-jurisdictional coordinators becomes crucial. States could enhance their current preparedness function to include careful management of a more sophisticated mutual

aid system that includes elements like maintaining resource inventories, training localities on interjurisdictional operations, and testing the system through exercises.

To support this approach, however, national government must adequately fund mitigation and preparedness grant programs for states and localities. This would require the federal government to see its role as attempting to reduce the potential for (and the cost of) emergencies in the long run, rather than serving mainly as the conduit through which funds for response and recovery flow downward. As Peterson's legislative theory suggests, though, Congress lacks adequate incentives to pursue mitigation and preparedness in the best of circumstances. Mitigation and preparedness funding does not carry with it the opportunities for credit-taking that motivate elected officials. The current federal budget rules, however, increase the incentives for myopic and reactive disaster policy by promoting disaster funding in ex post supplemental appropriation bills, rather than in ex ante efforts to prevent disasters. The next section will expand this argument.

The Budgetary Treatment of Disaster Spending

In this section, we illustrate the tension created by national-level political incentives to engage in distributive, developmental policy by briefly examining one place where this effect is striking and significant: the way that funding for disasters is handled in the federal budget process. We argue that the incentives created by the federal budget rules (in place since 1990) have important ramifications for emergency management. In particular, these rules have meant that much federal disaster relief funding comes not in regular appropriations, but in supplemental appropriations passed after a disaster has occurred. We believe this tends to exacerbate the focus of policy attention and activity toward distributing developmental resources and away from mitigation. In this section, we explain current budgetary rules and discuss their ramifications for disaster activities and funding. We also present several options for reform that might better align incentives for disaster funding with the appropriate federal role of promoting front-end prevention, rather than simply responding to disasters after they happen.

Current Budget Practice and Emergency Funding

In 1990, as part of the multiyear budget agreement between President Bush and Congress codified in the Omnibus Budget Reconciliation Act of 1990, several significant modifications were made to the federal budget process. Specifically, the Budget Enforcement Act (BEA) created new rules to control discretionary spending and to prevent deficit-increasing changes in taxes and mandatory spending.[8] The BEA promulgated three important changes with ramifications for emergency management: spending caps, the pay-as-you-go process, and the emergency-spending designation (Doyle and McCaffery 1991; Joyce and Reischauer 1992).

The BEA's caps on discretionary spending meant that, for the first time in the history of federal budgeting, there were statutory limits on the level of budget authority and outlays that could result from the appropriations process. While the original caps would have expired in 1995, subsequent laws extended them, first to 1998, and then to 2002. These budget authority and outlay caps did not allow the budget to grow as fast as inflation. In fact, as table 2 indicates, the appropriations caps permitted budget authority in 1998 to be provided at a level that was only 10.6 percent higher than that provided in 1990. As a percentage of gross domestic product, discretionary spending declined from 8.8 percent in 1991 to 6 percent in 2000. If the caps through 2002 continue this trend, the 6.3 percent of GDP represented by discretionary spending in 2002 would represent a 28 percent reduction in only 12 years and an important constraint on funds available for emergency management functions.

Table 2 Trends in Total Discretionary Spending, 1990–2002

Fiscal year	Discretionary outlays (billions)	Percent of GDP
1990	500.3	8.7
1991	533.0	9.0
1992	534.0	8.6
1993	540.4	8.2
1994	543.3	7.8
1995	545.1	7.5
1996	533.8	6.9
1997	548.5	6.7
1998	554.7	6.4
1999	575.0	6.3
2000	617.0	6.3
2001	646.0	6.3
2002	682.0	6.3

Sources: 1990–2000 actual data, Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 2002–2011*, appendix F, 146–7; estimates for 2001–2002, Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 2002–2011*, table 3, 1–2, 5–6.

What effect could the spending caps have on federal disaster spending? Put simply, if natural disaster funding had to compete with other accounts funded under the appropriations caps, there would be an incentive to reduce the level of overall funding for disaster assistance, since the caps created a less than "zero-sum" situation for discretionary appropriations. Under such a scenario, if the cost of disasters remained at levels consistent with or in excess of the historical average of disaster spending in a given year, these disasters could not be funded through

the amounts included in regular appropriation bills without making offsetting cuts in other discretionary programs. This might induce the president and Congress to underfund disaster programs or to reduce other spending to offset the cost of disasters. Conversely, the president and Congress could take action to reduce the long-run costs of disaster spending, thus freeing up space under the cap for other spending.

The BEA also created the pay-as-you-go (PAYGO) process. This process provided that changes in laws affecting revenues and mandatory spending that increased the budget deficit in any one year must be offset by deficit reductions such that the net effect of all changes is deficit neutral. If budgeters failed to comply with this deficit-neutrality rule, across-the-board reductions, or "sequestration," would occur for selected mandatory spending programs. PAYGO thus served to further tighten the funds available for emergency management.

The BEA did give the president and Congress an "out," one they have used with increasing frequency: An exception to the limitations of PAYGO and spending caps permits the president and Congress to declare certain spending as "emergency" spending. Because emergency spending is not subject to appropriations caps or to the PAYGO process, the president and Congress can finance disaster spending with supplemental appropriations rather than through the normal appropriations process. Congress and the president could therefore, under this provision of the BEA, declare the increase in spending necessary to pay for disaster relief to be an "emergency." As this spending is not subject to the limits established by the caps, offsetting reductions would not be necessary. Relative to disaster spending, this exception has created incentives for the president and Congress to wait until disasters have occurred, pass supplemental appropriations to fund response and recovery efforts, and then declare that funding as an emergency. Further, if spending in entire bills is declared emergency spending, it creates incentives for Congress and the president to insert spending that is unrelated to the disaster(s) at hand, because all spending in the bill is exempted from the caps (and is, from the standpoint of the budget process, "free").

The emergency spending loophole is troublesome because it provides opportunities for budget gimmickry, but more fundamentally because the law itself does not define what an emergency is. In fact, a recent Congressional Budget Office report argued that "emergency spending is generally whatever the Congress and the President deem it to be" (Hays and Davis 1998, 1). Indeed, attempts to establish neutral criteria for emergencies have been fraught with difficulty. In 1991, the Office of Management and Budget declared five criteria should determine whether a given request is worthy of the emergency designation. To be an emergency, the expenditure should be (OMB 1991):

1. **Necessary**– a vital expenditure, not one that is merely useful or beneficial;
2. **Sudden**– quickly coming into being, not building up over time;
3. **Urgent**– a pressing and compelling need requiring immediate action;
4. **Unforeseen**– not predictable or anticipated as a coming need; and
5. **Not permanent**– the need is temporary.

As one might imagine, these criteria are subject to vast differences in interpretation, suggesting that defining an emergency may face the same difficulty as defining "pork." The attempt to define the latter once led former House Speaker Tom Foley to declare a truth equally relevant to emergency funding: "One person's pork barrel project is another person's wise investment in the local infrastructure" (Peterson 1995, 41).[9]

In our view, the most significant ramification of the emergency designation for federal disaster policy is the added incentive that it creates to fund disaster assistance after the fact, rather than at a point where a disaster might be prevented. The reason is straightforward: It is preferable for the president and Congress to designate spending as an emergency, rather than force it to compete in the regular appropriations process, because this makes the caps less stringent. Given the above definition, it would be more difficult to declare mitigation and preparedness funding as "emergency" spending than to give that designation to response and recovery funding, because it is hard to argue that the need for mitigation and preparedness is sudden, urgent, or unforeseen. The incentive therefore exists to wait until a disaster has occurred and the president has declared it to be so, and then to follow that designation with the funding (usually in a supplemental appropriation bill) to pay for the federal disaster response.

From a political standpoint, this kind of gamesmanship benefits the president and Congress on two fronts. First, they can appear to be immediately responsive to disasters when they occur—that is, at the point where the need for disaster-management activities are most visible and unequivocal. Second, it is easier to deliver additional benefits opportunities by funding other programs, since the failure to fund disaster spending in the regular appropriations process frees up room under the cap for these other priorities. The problem these incentives promulgate, however, is that in the long run, the current budget rules do not promote the funding of mitigation and prevention activities, which arguably would reduce the need for future disaster funding and would ultimately make more funds available for other purposes.

Historical Funding Levels for Disaster Assistance

Evidence shows that the vast majority of emergency designations affect the appropriations process by increasing discretionary spending to a level higher than would have been permitted under the caps. A large percentage of designated emergencies, particularly in recent years, have been contained in supplemental appropriations providing funds to combat natural disasters. Some emergencies, however, have been funded in regular appropriation bills. Table 3 shows the total emergency funding included in both regular and supplemental appropriation bills and some of the major agencies involved in disaster relief efforts that have received designated appropriations.

Table 3 Emergency Spending in Regular and Supplemental Appropriation Bills, 1991–98

a. By type of appropriation bill (in millions of dollars of budget authority)

	1991	1992	1993	1994	1995	1996	1997	1998	1991–98
Regular	1,000	314	878	1,901	1,704	487	2,122	313	8,719
Supplemental	44,386	15,854	5,151	11,959	6,231	4,564	7,414	5,585	101,144
Total	45,386	16,168	6,029	13,860	7,935	5,051	9,536	5,898	109,863

b. By selected agencies involved in disaster relief (regular and supplemental)

	1991	1992	1993	1994	1995	1996	1997	1998	1991–98
FEMA	0	3,825	1,735	5,144	3,282	2,283	3,300	1,600	21,169
SBA	0	659	70	1,090	0	225	22	0	2,066
Interior	0	163	151	0	0	212	474	52	1,052
Transportation	0	146	131	1,565	-76	300	951	269	3.286
HUD	314	208	420	1,208	222	50	250	250	2,922
USDA	0	2,155	1,713	1,539	1,464	367	938	220	8,386
These agencies	314	7,156	4,220	10,546	4,982	3,437	5,935	2,391	38,981
Percent of emergencies	0.7	44.3	70.0	76.1	61.7	68.0	62.2	40.5	35.4*

*Note: Excluding fiscal year 1991, when the majority of emergency appropriations went to the Department of Defense for activities associated with the Persian Gulf War, these agencies accounted for 59.8 percent of all emergency appropriations over the period.

Source: Data from Congressional Budget Office staff memorandum, *Emergency Spending Under the Budget Enforcement Act*, tables A-1 and A-2.

As shown in table 3, between fiscal year 1991 and fiscal year 1998, almost $110 billion in budget authority was provided in regular and supplemental appropriation bills using the emergency designation. More than 40 percent of this total came in 1991 and was associated with emergency appropriations for the Persian Gulf War, virtually all of which were ultimately reimbursed by our allies. Between 1992 and 1998, however, almost 60 percent of spending carrying the emergency designation went to agencies historically involved in disaster funding. By far, the largest amount went to FEMA which accounted for $21.2 billion, or approximately one-third of the total emergency spending from 1992 to 1998.

Options for Reforming Budgetary Practice

The previous discussion sought to make two points. First, the discretionary spending limits in place since 1991 have shrunk the discretionary pie, relative to the economy, to unprecedented levels. The kind of "negative-sum game" created by this situation has provided the president and Congress with incentives to look elsewhere to fund priorities. Second, discretionary spending limits may also have created incentives to use the emergency designation to relax budget constraints by providing "wiggle room" under the caps, or to evade them entirely. One way this incentive can work is by underfunding disasters in the regular appropriations process. This allows Congress and the president to create room for other spending, confident that spending for disasters will be approved if necessary. Again, the importance of this incentive for our purposes is the possibility that it would make response and recovery appear less expensive (because it is not subject to the caps) than mitigation.

Such difficulties with the current funding mechanisms for disaster assistance have led to a number of suggestions for changing the way disaster funding is handled in the budget. Some of these reforms might lessen the current incentives in favor of post-disaster response and recovery at the expense of mitigation. The following are the most frequently discussed options for reforming disaster funding mechanisms.

Option 1: Funding Disaster Assistance at Average Levels. The tendency to underfund disaster spending in regular appropriation bills, thus almost ensuring supplementals for disaster assistance every year (see table 4), has led some to suggest that disaster assistance be funded at higher levels in regular appropriation bills. In particular, the suggestion has been made that appropriations for FEMA, Small Business Administration (SBA) disaster loans, and other programs should be equal to the average level of funding requirements over a number of years. Increasing the funding for these programs would require cutting other programs to live within the caps, but might decrease the incidence (and certainly would decrease the

size) of disaster supplementals. Proponents of this reform argue that appropriating for disasters at a higher level in the appropriations process would make the caps more binding and meaningful, since other spending would have to be cut to make room for a higher level of funding under the existing cap (CBO 1994, 110–11).

Option 2: Creating a Pay-As-You-Go Rule for Emergencies. This option would require any disaster funding in a supplemental appropriation bill to be offset by reductions in other programs. The emergency designation would effectively be eliminated, and the caps would remain operative throughout the year. This would raise the hurdle for supplemental funding (some would argue to an unacceptable or unrealistic level given the priority that disaster funding should or would receive) (CBO 1994, 108–9).

Option 3: Creating "Reserve Funds" for Disaster Assistance. Another proposal would create one or more "reserve funds" for disaster funding. Annual payments to the fund(s) would be made until a specified level was reached, and appropriations from these funds could be made only in the event of an actual disaster. These funds would operate much like state "rainy day" funds, which accumulate balances in good economic times to prepare for economic downturns. Further, many states and localities already have contingency funds for disasters, and the construction of a parallel system at the national level would lend consistency to the fiscal structure of the nation's emergency management system. Although this is an intuitively appealing option, it might be as difficult to come up with distribution rules for these accounts as it would be to define an emergency under current rules (see option 1) (Hays and Davis 1998, 1).

Option 4: Tightening the Criteria for Emergencies. The only current requirement for an emergency is that the president and Congress agree to it. Some have suggested applying specific criteria, such as those developed in 1991 by the Office of Management and Budget, to discourage the use of the emergency designation for nonemergency purposes. While this might make it more difficult to use the emergency designation frivolously, it would still leave a great deal to interpretation as to how words like "sudden," "urgent," and "unforeseen" could be applied in a rigorous and consistent way (CBO 1994, 107–8).

Option 5: Restrict Emergencies to One Per Appropriation Bill. The concern that "nonemergency emergencies" often find their way into appropriation bills (regular or supplemental) has led to the suggestion that only one emergency designation should be permitted for any single appropriation bill. This would mean, for example, that if there were a need for supplemental funding for both an earthquake and a flood in the same year, and the emergency designation were used to provide additional funding for each of them, two separate supplemental appropriation bills would be necessary. Representatives Charles Stenholm, John Kasich, and Tim Penny included this reform proposal as a part of a set of omnibus reforms introduced in 1994. In support of their proposal, they presented several examples of recent supplementals that had started out to provide funding for a particular purpose, but had attracted many unrelated items on their way to final passage. The restriction would arguably force bills to include only spending related to the single stated purpose of the legislation (Common Sense Budget Reform Act 1994).

Would any of these reform proposals change the current bias away from mitigation and toward response and recovery? In our view, any reform that would make response and recovery seem more expensive could lead to more balance between proactive (mitigation and preparedness) and reactive (response and recovery) disaster funding. That is, if Congress and the president believed that reducing the long-run costs of disasters would enable them to spend more on other priorities, this might induce them to support prevention as opposed to after-the-fact response and recovery funding, bringing the national government's behavioral incentives and functional competencies into better alignment.

A full evaluation of these reforms is beyond the scope of this article. A preliminary analysis, however, suggests they would have mixed results. Options 4 and 5 would arguably have no effect on disaster spending, although they would probably make it more difficult to finance nonemergency spending using the emergency designation. The first three options, however, would each increase the perceived cost of disaster spending relative to other spending from its current level, thus moving away from back-end funding to front-end prevention. This would occur either because the emergency designation was unavailable as a safety valve (option 2) or because of the provision of greater funding for disaster assistance in the regular appropriations process (options 1 and 3).

Conclusion and Future Research

Anecdotal evidence and the few recent studies of FEMA and its integrated emergency management system suggest that the effectiveness of disaster response and recovery efforts is improving and that planning efforts are ever-more thorough, but mitigation programs are sporadic in their extent and success (Abernathy and Weiner 1995; *Government Executive* 1999). This article has presented a general analytical framework for examining disaster management activities that suggests a solution to this problem, improve the overall coherence of the emergency management policy subsystem, and shift FEMA's emphasis, as articulated in legislation, from response and recovery to mitigation. Response and recovery are the functional domain of local governments, with coordinating assistance from the states

and fiscal assistance from the national level. Mitigation, on the other hand, rests heavily on research and development and on technical expertise that should be made broadly available. Here the federal government can be most effective. In fact, there is some evidence that FEMA's recent "proactive" approach to IEMS reflects a concerted programmatic emphasis on mitigation (FEMA 1997; Moore 1995).

This article has provided an example of how application of intergovernmental theory to the realm of emergency management may inform more rational policy design and implementation. Such analyses should, of course, be bolstered by systematic empirical research, and there are several avenues that demand attention. Now is an opportune time to examine the effect of FEMA's recent strategic planning effort and functional reorganization on the cost-effectiveness of disaster management, for example. Another important area to address is the interaction of various levels of government with the private and nonprofit sectors with respect to all phases of emergency management. A third area worthy of study is the federal disaster-funding process, which, to this point, has relied on supplemental appropriations that do not compete in the normal budget process and thus present troublesome opportunities for budgetary gamesmanship and perverse incentives for disaster funding. Finally, probably the most difficult and most important research question is whether it is feasible to measure the performance of emergency management activities, particularly those conducted before disaster strikes—is it possible to discern productive mitigation efforts from pure luck?

If there is a policy subsystem in American governance that truly calls for efficient administration, it is the management of disasters that suddenly threaten lives and property on a wide scale. Moreover, this is a complex policy subsystem that demands participation from all levels of government and all sectors of society. As Waugh says, though, "The federal system itself acts to inhibit coherent and comprehensive disaster preparedness efforts" (1988, 118). It is necessary, therefore, that knowledge of the principles of intergovernmental fiscal and functional relations be applied to develop a rational policy-implementation framework.

Notes

1. The authors are grateful for the comments of William Waugh and three anonymous reviewers.

2. For a detailed explanation of the history of government response to emergencies in the United States, see Schneider (1995, chapter 3).

3. The professional literature and practice distinguish between a disaster and an emergency and between the management of each. At the level of analysis adopted for this article, these terms will be used interchangeably.

4. This effect is commonly referred to as "pork barrel spending," whereby members of Congress attempt to secure federal funding for social and physical infrastructure development projects in their own jurisdictions. The best current example of increased federal involvement in developmental policy is transportation policy. Fiscal conservatives of both parties have decried the number of local demonstration and other local benefit projects included in recent transportation authorization and appropriation bills.

5. Again, the classic example of this type of behavior is federal welfare "reform," which represents a delegation of responsibility for a major (and unpopular) federal program to states and local government, contrary to functional theory.

6. Some authors point out that federal disaster assistance does, in fact, have an unintended redistributive effect that may be quite large.

7. Some critics raise doubts about the extent to which the tactics of delegation, devolution, and regulation can be effective. Sylves explains (1994, 307), "FEMA's relations with state and local government are of cardinal importance. NAPA, GAO, and Bowsher [U.S. Comptroller General] underscore the intergovernmental nature of America's disaster management. However, lack of regulatory authority, very limited mandating ability, relatively small budget and grant-issuance power, weak research capacity, professional and occupational conflicts (especially at the local level), inadequate agency self-evaluation, weak clientele support, vacillating governor and state legislative support for emergency management, and other factors continue to complicate FEMA's relations with state and local government and agencies."

8. The Budget Enforcement Act changed the emphasis in the budgetary process from deficit control, which was the hallmark of the Gramm-Rudman-Hollings era, to spending control.

9. The incentives to fund projects in other ways and to misuse the emergency designation are strongest when the caps are tightest. Prior to the fiscal year 1999 appropriations process, the emergency designation was not used substantially to finance nonemergency spending. The fiscal year 1999 appropriations process saw a significant relaxing of the standards for using the emergency designation; by fiscal year 2000, the emergency safety valve was so abused as to make the earlier OMB definition completely meaningless—the emergency designation simply became a way to evade the caps in reality while technically living within them.

References

Abernathy, Ann Marie, and Leslie Weiner. 1995. Evolving Federal Role for Emergency Relief. *Forum for Applied Research and Public Policy* 10(1): 45–8.

Common Sense Budget Reform Act. 103rd Congress, Title IV, Limiting Each Bill to Only One Emergency. Unpublished description by sponsors.

Congressional Budget Office (CBO). 1994. Budgeting for Emergency Disaster Assistance. In *Information for the Bipartisan Task Force on Funding Disaster Relief, United States Senate*, section 5. Washington, DC: Government Printing Office.

———. 2000. *The Economic and Budget Outlook: Fiscal Years 2002–2011.*

Doyle, Richard, and Jerry McCaffrey. 1991. The Budget Enforcement Act of 1990: The Path to No Fault Budgeting. *Public Budgeting and Finance* 11(1): 25-40.

Federal Emergency Management Agency (FEMA). 1997. *Partnership for a Safer Future Strategic Plan FY1998 through FY2007, with Operational Objectives through FY2003.* September 30.

Godschalk, David R., Timothy Beatley, Philip Berke, David J. Brower, and Edward J. Kaiser. 1999. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning.* Washington, DC: Island Press.

Government Executive. 1999. Mastering Disaster. *Government Executive* 31(2): 56–8.

Granito, John A. 1995. Planning for Disaster: Emergency Management Today. *NFPA Journal.* July/August.

Hays, Ellen, and Sandy Davis. 1998. Emergency Spending Under the Budget Enforcement Act. Washington, DC: Congressional Budget Office.

Joyce, Philip G., and Robert D Reischauer. 1992. Deficit Budgeting: The Federal Budget Process and Budget Reform. *Harvard Journal on Legislation* 29(2): 429–53.

Lewis, Ralph G. 1988. Management Issues in Emergency Response. In *Managing Disaster: Strategies and Policy Perspectives*, edited by Louise K. Comfort, 163–79. Durham, NC: Duke University Press.

Mazmanian, Daniel A., and Paul A. Sabatier. 1983. *Implementation and Public Policy.* Glenview, IL: Scott, Foresman and Company.

McLoughlin, David. 1985. A Framework for Integrated Emergency Management. *Public Administration Review* 45(Special Issue): 165–72.

Moore, Richard T. 1995. The Changing Face of Disaster Assistance. Keynote address to the Conference on Preparing Our Communities for Changes in Disaster Assistance, University of Vermont, September 26.

Musgrave, Richard A. 1959. *Theory of Public Finance: A Study of Political Economy.* New York: McGraw-Hill.

Mushkatel, Alvin H., and Louis F. Weschler. 1985. Emergency Management and the Intergovernmental System. *Public Administration Review* 45(Special Issue): 49–56.

National Governors' Association. 1979. *1979 Emergency Preparedness Project: Final Report.* Washington, DC: National Governors' Association Office of State Services.

Office of Management and Budget (OMB). 1991. *Report on the Costs of Domestic and International Emergencies and on the Threats Posed by the Kuwait Oil Fires.* Washington, DC: OMB.

Petak, William J. 1985. Emergency Management: A Challenge for Public Administration. *Public Administration Review* 45(Special Issue): 3–6.

Peterson, Paul. 1995. *The Price of Federalism.* Washington, DC: Brookings Institution.

Rubin, Claire B., and Daniel G. Barbee. 1985. Disaster Recovery and Hazard Mitigation: Bridging the Intergovernmental Gap. *Public Administration Review* 45(Special Issue): 57–63.

Schneider, Saundra K. 1992. Governmental Response to Disasters: The Conflict Between Bureaucratic Procedures and Emergent Norms. *Public Administration Review* 52(2): 135–45.

———. 1995. *Flirting with Disaster: Public Management in Crisis Situations.* Armonk, NY: M.E. Sharpe, Inc.

Settle, Allen K. 1985. Financing Disaster Mitigation, Preparedness, Response, and Recovery. *Public Administration Review* 45(Special Issue): 101–6.

Sylves, Richard T. 1994. Coping with Catastrophe: Building an Emergency Management System to Meet People's Needs in Natural and Manmade Disasters. *Public Administration Review* 54(3): 303–7.

Wamsley, Gary L. and Aaron D. Schroeder. 1996. Escalating in a Quagmire: The Changing Dynamics of the Emergency Management Policy Subsystem. *Public Administration Review* 56(3): 235–44.

Waugh, William L., Jr. 1988. Current Policy and Implementation Issues in Disaster Preparedness. In *Managing Disaster: Strategies and Policy Perspectives*, edited by Louise K. Comfort, 111–25. Durham, NC: Duke University Press.

———. 1994. Regionalizing Emergency Management: Counties as State and Local Government. *Public Administration Review* 54(3): 253–8.

Appendix Emergency Management Functions and Activities by IEMS Phase.

Mitigation

- Identify hazards
- Research hazard causes
- Develop means to modify the causes of hazards
- Plan and zone land use
- Develop means to reduce vulnerability to hazards
- Develop, adopt, and enforce land-use standards
- Retroengineer to correct poor building designs
- Site structures to avoid disasters
- Develop, adopt, and enforce building codes
- Construct disaster-resistant structures
- Regulate growth
- Educate public
- Provide insurance

Preparedness

- Analyze hazards
- Monitor hazards
- Identify and assess risks and exposure
- Develop disaster plans
- Identify and inventory resources
- Develop interagency and interjurisdiction response systems
- Stockpile and preposition emergency equipment and supplies
- Professional training/ development
- Measure and assess response capability measurement and assessment
- Test response capability
- Educate public
- Develop early-warning systems
- Evacuate before disasters

Response

- Warn
- Mobilize
- Emergency dispatch and communications
- Evacuate
- Restore essential infrastructure
- Provide emergency food, water, clothing, and shelter
- Disseminate public information
- Search and rescue
- Contain and decontaminate hazardous materials
- Emergency medical treatment and transport
- Suppress fires
- Assess damage
- Enforce the law
- Stabilize debris
- Collect data

Recovery

- Restore public services
- Remove debris
- Restore physical infrastructure
- Restoration of public facilities
- Restore governmental self-sufficiency
- Restore individual emotional health
- Restore individual self-sufficiency
- Restore economic stability
- Renew community economic development
- Repair private homes and businesses
- Rebuild capital stocks
- Restore social events

Sources: Federal Emergency Management Agency (1997) and McLoughlin (1985).