

## **Putting the Pieces Together: Linking Communities and Governance to Guide National Resilience**

National resilience rests on a foundation of choice—and begins with communities and how cities, towns, and the landscapes on which they exist are planned, designed, constructed, and maintained. This foundation is the physical resilience (Poland, 2012). Resilience then grows out of the health, security, and well-being of our people, which is a combined effort and responsibility of the people in the communities and the governing bodies—at all levels—that develop and implement resilience-building policies. This human component has been called an “engine” that can drive the physical foundation forward to increase resilience (Poland, 2012; see also Chapters 5 and 6). Because resilience cannot be accomplished by simply adding a cosmetic layer of policy or practice to a vulnerable community, long-term shifts in physical approaches (new technologies, methods, materials, and infrastructure systems) and social practices and initiatives (the people, management processes, institutional arrangements, and legislation) are needed to advance community resilience.

Communities and the governance network of which they are a part are complex and dynamic systems. Resilience to disasters rests on the premise that these multiple systems are robust, and requires that the system components work in concert and in such a way that the interdependencies provide strength during a disaster event. Experience in the disaster management community suggests that linked bottom-up–top-down networks are important for managing risk and increasing resilience (IPCC, 2012). Institutionally driven or top-down arrangements may in fact constrain or otherwise impede local actions if links or networks are not made to community-based or bottom-up approaches (Cutter et al., 2012). The dynamic nature of communities lends itself to comparisons to organisms, such as the human body metaphor used in Chapter 1. This suggests a holistic rather than piecemeal approach toward enhancing the nation’s resilience. Because of the cost and commitment needed to increase resilience, two potential paths were outlined in Chapter 1 to consider in addressing the

nation's approach to resilience. One path was that of investment in a long-term strategy of increasing the nation's resilience through concerted collaboration and action on the part of governing bodies and the communities they serve. The other path was one of maintenance—where current policies and approaches are continued without a long-term view, and disasters are addressed in a reactive way as they arise. Although the first path toward increased resilience may be more expensive initially, other chapters have presented evidence that longer-term savings can result from such an approach.

Although improvements in the nation's physical resilience (Chapters 2-4) are needed, the committee sees the interactions among and actions by the communities and governing bodies described in Chapters 5 and 6 as keys (the "engines") to move resilience forward. The committee has observed and documented numerous cases of individual success (at the level of a community, a government agency, a city) in taking steps toward increasing resilience; however, Chapters 5 and 6 make evident the fact that the collective, national resilience "engine" is not running optimally to make significant advances in resilience across the country.

Table 7.1 attempts to capture visually some of the key interactions within the nation's resilience system by identifying specific kinds of policies that can increase resilience and the roles and responsibilities of those in government, the private sector, and communities for acting on these policies. The purpose of the table is two-fold: (1) it attempts to visualize in a relatively simple way the complex interactions and dependencies in the community resilience system—one that combines bottom-up and top-down approaches; and (2) it attempts to show policy areas where the nation is currently making some progress toward communicating or implementing a type of resilience-building policy. By framing some of the collective responsibilities and identifying some of the gaps in the collaborative resilience network, the committee aims to help direct future discussion among these various stakeholders toward those areas of resilience building that may need most immediate attention.

**TABLE 7.1** Overview of some key resilience policies and the roles and responsibilities related to developing and maintaining community resilience.

Policy Goal	Policy Area	Resilience Policy Result	Stakeholders					
			FED	STA	REG	LOC	PRIV	COMM
Strong governance, all levels								
	Governance	Agency roles and responsibilities clearly defined	√++	√++	√++	√++	O	O
		Jurisdictional cooperation	√++	√++	√++	√++	O	O
		Preparedness, planning, training	√+	√++	√+	√++	√	O
		Response	√++	√++	√√	√++	√	O
Resilience-aware leaders and citizens								

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Policy Goal	Policy Area	Resilience Policy Result	Stakeholders					
			FED	STA	REG	LOC	PRIV	COMM
	Education/ Community preparedness	Resilience awareness	√++	√++	√	√++	√√	√++
		Community organization, planning, preparedness	√√	√√	√+	√++	√+	√+
		Preparation for response, recovery	√++	√++	√+	√+	√√	√
Stable and resilient economy								
	Economics/ finance	<ul style="list-style-type: none"> <li>• Aid to state and local government</li> <li>• Preparation, building resilience</li> <li>• Response</li> </ul>	√++	O	O	O	√+	O
		Recovery costs	√+	√++	O	√++	√+	O

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Policy Goal	Policy Area	Resilience Policy Result	Stakeholders					
			FED	STA	REG	LOC	PRIV	COMM
		Insurance	√√	√+	√	√	√++	O
		Poverty reduction	√++	√++	√++	√++	√++	√√
Understanding threats and processes								
	Science & Technology/ R&D	Understanding/ forecasting disasters	√++	√√	O	O	√++	O
		Detection/ monitoring	√++	√++	O	O	O	O
		Geospatial information	√++	√+	√√	√√	√++	O
	Energy/ Climate change	Control carbon emissions	√++	√++	√	√++	√++	√++
	Coastal management	Manage coastal development	√+	√++	√	√++	√+	√+

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Policy Goal	Policy Area	Resilience Policy Result	Stakeholders					
			FED	STA	REG	LOC	PRIV	COMM
Resilient infrastructure and landscape								
	Planning and assessment tools	National resilience dataset	√++	√√	√√	√√	√+	O
	Land-use planning	Manage development of vulnerable lands	√++	√++	√++	√++	√++	√++
	Zoning	Establish rules for development	√√	√√	√√	√++	O	O
		Enforce rules for development	√√	√√	√+	√++	O	O
	Codes and standards	Develop rules for buildings	√++	√+	√+	√++	√+	√+
		Enforce rules for buildings	√+	√	√	√++	O	O

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Policy Goal	Policy Area	Resilience Policy Result	Stakeholders					
			FED	STA	REG	LOC	PRIV	COMM
	Critical infrastructure	National standards: Prioritize protection and hardening, interdependency analysis	√++	√+	√	√++	√+	O
		Emergency shelters	√√	√+	√	√+	√+	O
Strong citizen protection								
	Public health, human services	Medical records availability	√+	√+	√	√+	√+	O
		Access to health care including financial coverage	√++	√√	√	√√	√++	O
		Locator systems for reuniting people	√++	√+	√	√+	√++	O
Strong communications								

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Policy Goal	Policy Area	Resilience Policy Result	Stakeholders					
			FED	STA	REG	LOC	PRIV	COMM
	Communica-tions	Media	√++	√+	√	√+	√++	O
		Social media	√	√	√	√+	√++	√++
		Resilience awareness	√++	√++	√++	√++	√++	√++
		Warning systems	√++	√+	√+	√+	√√	O

Notes: Roles are identified for key actors in federal, state, regional, and local government, the private sector (for-profit), and communities (non-profit and individuals). A check symbol “√” in the box indicates that the given actor has a responsibility in that area. An “O” in the box indicates an actor is a recipient or target for that policy. The additional symbols associated with the checks indicate the level of coordinating responsibility of that actor relative to the other actors, on a four-level scale: (1) √++, primary coordinating responsibility (in cases where multiple actors are designated primary responsibility, each actor is assumed to have responsibility within its purview); (2) √+, significant responsibility but not primary; (3) √√, minor responsibility; (4) √, participatory, rather than primary, coordinating responsibility. Responsibility designations do not give any indication of how well or successfully the responsibility is carried out, or if other stakeholders might best be given more or less responsibility. That type of analysis may be useful for the various stakeholders to conduct as they evaluate their own policy goals and roles of partners in increasing resilience. Fed = Federal; Sta = State; Reg = Regional; Loc = Local; Priv = Private; Comm = Community.



The committee's goal in this study was not to provide a set of complete solutions toward increasing the nation's resilience. Rather, the study places resilience in the context of practical physical and human elements that are critical to the nation in attempting to advance disaster resilience. Advancing resilience is a long-term process, but can be coordinated around visible, short-term tasks that allow individuals and organizations to mark their progress toward becoming resilient. The practical recommendations in Chapter 8 attempt to identify some of these long- and short-term approaches. As a necessary first step to strengthen the nation's resilience and provide the leadership to establish a national "culture of resilience," a full and clear commitment to disaster resilience by the federal government is essential.

***Recommendation:* Federal government agencies should incorporate national resilience as a guiding principle to inform the mission and actions of the federal government and the programs it supports at all levels.**

The breadth and potential fragmentation of federal activities related to disaster resilience require a clear vision for national resilience, including federal roles and responsibilities, and a comprehensive strategy for advancing resilience of communities, institutions, and sectors. The broad framework and principles for this vision and strategy should derive from the Executive Branch. PPD-8 and the subsequent recommendations of the Community Resilience Task Force (Chapter 6) provide a strong beginning for such a federal vision. Such a vision for the nation includes participation and input from the local and private-sector stakeholders, and can serve as a template for similar visions and strategies developed by states, regions, cities, and neighborhoods for their respective communities and tailored by them for their needs and priorities.

The acceptance of a shared vision and a shared responsibility at the federal level is a critical step in achieving national resilience. Development and implementation of the vision can be achieved in part by the federal agencies through clear definition of their individual and collective roles and responsibilities and their roles in promoting resilience among state and local governments, the business community, nongovernmental organizations (NGOs) and nonprofits, and local communities. Clear definition of federal roles for resilience would also allow communities to understand their own roles and responsibilities for promoting resilience and would provide the basis for dialogue with federal agencies to address all phases of the resilience process and to close gaps that presently exist in the process. Some potential steps to implement a national resilience vision and strategy are outlined below.

## STEPS FOR IMPLEMENTATION

All federal agencies are responsible for increasing resilience and for developing the national resilience vision, although different agencies will take the lead for various aspects of resilience.

In PPD-8, the President directs the Secretary of Homeland Security to “coordinate a comprehensive campaign to build and sustain national preparedness, including public outreach and community-based and private-sector programs to enhance national resilience, the provision of Federal financial assistance, preparedness efforts by the Federal Government, and national research and development efforts” (White House and DHS, 2011). Through PPD-8, the Department of Homeland Security (DHS) is directed to assume a broad coordination and leadership role that brings national resilience into focus at the federal level, and provides clear and coordinated collaboration with state and local government, the private sector, and individuals. The coordination of public outreach, federal financial assistance, preparedness efforts by other federal agencies, and resilience-related research and development efforts across the government is a necessary responsibility for DHS and all relevant federal agencies to pursue aggressively. A group of federal agencies convened under the presidential authority of PPD-8 should address the following **short-term tasks** (in the 1- to 2-year time frame) to incorporate resilience as an organizing principle in federal agency missions and actions:

- (1) Develop a national vision of resilience:
  - Develop, with participation of state, local, and private-sector stakeholders, a vision of national resilience to serve as a foundation for longer-term discussion of a national vision to be shared with communities (at state, regional, and local levels).
  - Define, within each federal agency, resilience-related roles, responsibilities, and key ongoing activities, especially as related to existing efforts related to homeland security and disaster reduction;
- (2) Develop a communications strategy to promote resilience among federal agencies, state and local government, and other stakeholders, including NGOs such as hospitals, religious communities, aid agencies, schools, and universities. Communications could be aided by provision of a real or virtual forum for all community stakeholders to share knowledge, experience, and needs among those focusing on national resilience.
- (3) Develop and facilitate an effective coordination, collaboration, and accountability process for resilience planning and implementation among federal agencies. The current efforts in homeland security and disaster reduction support such coordination among federal agencies, but a focus on long-term planning, policy impacts, and gathering input from state and local

authorities and groups would enhance coordination, collaboration, and accountability.

(4) Conduct an analysis of federal, state, and local funding for disaster preparedness and response, including all natural hazards and critical infrastructure investments, and develop a cost-effective strategy for short- and long-term investments in the components of resilience.

(5) Identify achievable **long-term tasks** (in the 3- to 10-year time frame) to fully implement the shared national resilience vision that include, for example,

- Establishing a process for dialogue, planning, and coordination among local, state, and national government leaders and agency heads to develop a long-term national resilience implementation strategy. This process could include:
  - protocols and processes for data collection and data management;
  - coordinating funding streams to local communities for resilience enhancement for case management during and following disasters, for preparedness, response, and short- and long-term recovery; and
  - developing appropriate metrics and a process for measuring progress in advancing national resilience.
- Developing short-term incentives and guideposts for achieving these long-term goals. Such incentives can address the tendency for decision makers to focus on short-term horizons.
- Developing a consistent and coordinated communication and outreach strategy around the national vision for resilience for the general public.
- Developing a long-term investment strategy for federal funding of resilience priorities within the context of existing funding of disaster preparedness and response.
- Conducting periodic review and assessment of agency activities to assess progress in the implementation goals and strategies of the national resilience vision.

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