CHAPTER 20

National Planning and Response: National Systems

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The notion of a "national system" evokes an image of unity, perhaps even coherence and integration, which many in the disaster management field would query. The assumption that through orderly arrangements, disaster risk goals are being achieved in the best possible manner is not a reality yet. To be fair, disaster management is not the only field of endeavor that falls short, although it is true that disaster management coordination has long been a problem. The term "national system" also directs attention to different governance levels and mechanisms to secure systematic action. In this context the role of central government comes to the fore, and this is the focus of attention in this discussion. Studying national-level planning and response systems requires analyzing the role of central governments: "national" disaster management calls for specific actions at a central government level. Some general observations about governmental classifications and the role of government will set the scene for a review of this system level.

In the context of this discussion, national system refers to enduring unitary central governmental arrangements. In such a system all authority to make laws is vested in one principal governing body whose legality embraces the entire country. While subnational legislatures may exist, their roles are subordinate to and are determined by the central government. The generic term "government" encompasses a wide range of agencies, departments, and institutions in executive, legislative, and judicial branches comprising elected and appointed officials who can be either full- or part-time and permanent or temporary employees. Other types of central governmental systems that are distinct from unitary systems, such as transitional governments (states with governance systems passing from one condition to another, sometimes referred to as hybrid regimes) and federal governments (wherein central and local governments have a measure of guaranteed autonomous decision-making authority), are discussed by other contributors.

While the statement conceals more than it reveals, it has been said that government provides services that are not exchanged on economic markets but are justified on the basis of general social values, the public interest, and politically imposed demands of groups. Governments and their public organizations thus perform crucial functions, a major purpose of which is to ensure the maintenance and well-being of a sovereign society. It does this through offices staffed with functionaries who have legitimate authority to make decisions on behalf of their respective communities; to establish frameworks within which decisions can be made and/or

implemented; and to carry out (or cause to carry out) specific tasks. In general, responsibilities for these actions are divided between national (the term "central government" is used interchangeably in this chapter) and subnational (or local) government. Within this distinction central governments typically maintain systems of law, justice, and social organization. They maintain individual rights and freedoms; provide national security and stability; and give direction to the nation and its constitutive communities. By contrast, subnational government normally provide the basic services, amenities, and controls necessary for the health and overall well-being of the community, as well as the mechanisms for enhancing the quality of life of its citizens through leadership, advocacy, and representation.

Within this overall arrangement, and following Curtice (1985), national governments can be classified on the basis of the relationship between government and the governed. Here, the focus revolves around the extent to which government attempts to achieve its aim by coercion rather than persuasion, and the extent to which limits are placed on the legitimate authority of government. A distinction is often drawn between liberal democratic governments, on the one hand, which are responsive to the wishes of society and have clear limits placed on their ability to coerce or mold society in a particular way, and totalitarian governments that have fewer limits on either their authority or methods of coercion. Based on their underlying democratic relationships, Kamrava (1996) further suggests four distinct governmental types: first world democracies with historical longevity; more recent governments born out of the 1970s–1980s democratization process; proto- or quasi-democracies in which democratic mechanisms such as elections and political parties exist but the spirit of democracy does not extend beyond elite circles; and nondemocratic governments that often take the form of either bureaucratic-authoritarian regimes or inclusionary populist ones.

Within this broad tapestry, central government has a special role in relation to disaster management and has specific responsibilities to ensure that appropriate risk reduction, disaster preparedness, and response activities are adopted and implemented. How governments deal with risk says a lot about a nation's institutions and political culture (Waugh, 2006). Appendix 1 outlines some key tasks that central governments should, in an ideal world, pursue although it must be noted that while laws, institutions, and systems for managing disaster around the world follow certain patterns there is no universal model and hence the 10 attributes highlighted in Appendix 1 will be pursued in different ways and under different structural and procedural arrangements. Studies in various countries have identified approaches that range from exclusive "top-down" central government-only directed efforts, to styles that encourage "bottom-up" all-of-nation cooperative- measures, as well as versions in between. However, detailed analyses of specific national approaches to the management of disaster risk that go beyond mere structural description (e.g., explaining organizational "wiring diagrams") and legal narratives (e.g., providing an account of key sections from relevant statutes) are few and far between, especially with respect to effectiveness against specific criteria, strategic development, or links to other areas of significant national-level actions. Cross-cultural studies of disaster management systems are also relatively rare. These conditions have led researchers Tierney, Lindell, and Perry (2001) to state that not only does little systematic research exist to compare organizational features, policies, and practices of central governments, but there is also an absence of research on how governmental structures and policies influence preparedness and recovery activities. A recent endeavor by the Inter-Agency Secretariat of the International Strategy for Disaster Reduction (ISDR) has gone part way to resolve this by compiling descriptive material of national disaster management planning systems written by government officials that include examples of what individual nations consider to be "best practice" (available in the national platform section of the ISDR Web site).

Moreover, it is still commonplace that national governments do not automatically recognize disaster management as a core function, although it is true that its significance is moving up government agendas. Nevertheless, cumbersome administrative procedures, shortages of funds, and low levels of political commitment are still cited as outcomes from disaster's lack of political salience, along with poor and unsustainable development practices, a lack of community participation and many other factors that either divert or prevent actions that have been widely agreed and accepted in principle (Burton, 2005).

Governments, however, are not theoretical but empirical in orientation. Moreover, governments tend first to address their legislated mandates and act from political self-interest rather than looking beyond their traditional processes for solutions (Newtown, 1999, p. 264). They form positions and policies on the basis of reflection and reaction to occasions that impact on the lives of the citizens they are obliged to protect. Disasters, as social disruptions, are one such category of occasion that demands governmental attention. How government defines disaster is therefore important because this starts the process of policy development that leads to the domain, tasks, resources, and activities mix described by Kreps (1998), the combination of which helps to frame social action in a disaster. Moreover, disaster management practitioners tend to operate within action frameworks that are handed down and enshrined by governments through legislation.

HISTORICAL ROOTS

For most of the 20th century, and in particular between the late-1930s until the late-1970s (prompted initially by the civil defense movement in the United Kingdom in preparation for World War II and boosted in the post-Korean War era by the United States), if central governments had any systematic disaster management program at all, it was typically based on a military "command and control" model (Dynes, 1994), staffed by former or serving armed forces personnel, located as an outpost within the nation's department of defense, focused on preparing for the next impact, and preparations were backward-looking based on the assumption that solutions to the next problem would be found in the last. This representation went relatively unimpeded until the 1980s, when the National Governor's Association (1979) made inroads with a call for focused policy initiatives and wider skills among relevant staff.

Although the attention of social science research and government policies has been on planning for preparedness, response, and short-term relief, the total amount of effort overall was modest. One reason why early investigations tended not to focus on the national level was because research at the time indicated that major benefits were to be found by bolstering community level efforts and the national thrust should be to enhance local level activities and skills. Existing material tended to deal with ways in which governmental structures and policies influenced planning and response. Moreover, most was conducted in the United States, although some work was pursued elsewhere, for example in Australia (e.g., Britton, 1984, 1986b, 1991; Britton & Wettenhall, 1990; Wettenhall, 1975), both federal systems. Drawing on what was available, while noting that the pickings were slim, Drabek (1986) concluded that national level preparedness initiatives were formed mainly following major impacts: it was somewhat exceptional for a country to progress disaster management contingencies unless an actual hazard impact had revealed deficiencies in existing planning and/or response arrangements. Hence, "planning reflects the unevenness of growth spurts stemming form a short-lived consciousness of risk" (Drabek, 1986, p. 60).

Based on understandings such as these, Drabek (1986) postulated that, "in all societies disaster planning will be uneven and non-uniform across hazard types, reflecting cultural values, assumptions and power differentials" (1986, p. 60). Drawing on the U.S. experience, Tierney et al. (2001) referred to this approach as the "fix upon failure" arrangement, which was characterized by a massive mobilization of material aid following impact to be replaced soon after by a period of restoration that, more often than not, was undertaken without incorporating risk reduction measures designed to reduce the prospects of similar impacts occurring in the future. This scenario, recognizable throughout most of the world, supported Dynes and Drabek's "universal view" (1994, p. 12) of how disaster was conceptualized, including the typical central government position wherein, "disaster planning was to enhance the national government's ability to reestablish social order and to facilitate recovery" (1994, p. 12). These researchers noted in addition that disasters were considered as collective misfortunes rather than objects of specific study or for public policy (1994, p. 5).

One early study, repeatedly cited, that focused on national systems in a comparative context (which is another neglected field of inquiry) is McLuckie's (1970) treatment of the public administration systems in Italy, Japan, and the United States. Using an ecological perspective, his central theme was that the economic, political, and sociocultural systems will affect the structure and performance of disaster response functions. In particular, he noted how centralization has an affect on disaster response. A centralized system (portrayed in varying degrees by Japan and Italy) was defined as one in which the highest level of government retains power to itself with the result that there are relatively fewer decision makers (McLuckie, 1970, p. 50). Centralization makes lower-level officials reluctant to take initiatives since to do so would be tantamount to overstepping authority. This resulted in decisions being passed upward, causing a slowing down of the decision-making process, although McLuckie noted this depended on the disaster phase and the tasks performed. McLuckie further qualified this observation by stating that a focus on formal structures of decision making tends to give the impression of greater centralization than actually occurs.

The adoption of a holistic approach in disaster research and practice started to make headway from the 1990s, which coincided with the United Nation's International Decade for Natural Disaster Reduction (IDNDR). Until then, risk assessment and hazard mitigation activities were typically on the fringes of national level response planning. Studies of the type conducted by May and his colleagues (May et al., 1996), a quarter century after McLuckie, looked at intergovernmental approaches to environmental and hazard management, and helped broaden the disaster planning approach. These researchers undertook a trination assessment (Australia, New Zealand, and United States) and distinguished between coercive and cooperative policy mandates that entailed the imposition of procedural and/or substantive requirements by higher-level governments on subnational levels, either as conditions for assistance or as direct orders. While both approaches attempted to achieve vertical consistency and congruency within national systems, "the different mechanisms may possibly result in long-term solution variance" (1996, p. 3). They concluded that no matter what the approach taken to induce local governments to deal with environmental and hazard management issues, a "commitment conundrum" prevailed: when forced under coercive mandates (such as in parts of the United States), participation is either half-hearted or political back lash can result; however, when encouraged to take on these problems but not forced to do so under a cooperative mandate (as the case with New Zealand and some Australian states) local governments tend to drag their feet. In either case, it leaves a challenge for policy makers to figure out how to build commitment to hazard management and sustainable environmental goals.

A good summary of the status of national systems is Hays' assessment of governmental actions prior to the advent of the International Decade of Natural Disaster Reduction (IDNDR). Hays (1999) stated that, "in hindsight, few nations had policy makers and stakeholders ten years ago who knew how to change their natural disaster reduction culture and make natural disaster reduction a national and worldwide public value" (p. 276). He identified six conditions that captured the prevailing situation:

- No legal or social mandate from the citizens and stakeholders to evaluate existing research and research applications programs, plans, and public policies and to make major changes in the natural disaster reduction culture.
- A lack of overall understanding of the complex interrelations between the hazard, built, and policy environments of their nation.
- A lack of technical capacity to conduct a national risk assessment.
- A lack of technical capacity to develop improved monitoring, forecasting, and warning systems.
- A lack of political will to initiate a national mitigation strategy.
- Existing science, technology, and traditional knowledge was not enough to effect these kinds of major changes in their natural disaster reduction culture (Hays, 1999, p. 277).

While this brief review of historical roots might appear, on balance, to be more negative than upbeat, the significance of these early studies was nevertheless considerable. In particular, as Dynes and Drabek (1994) point out, at the commencement of the 1990s the consequences of the disaster research tradition transformed policy approaches to disaster at national level and internationally, although the effect was more nascent than actual outside the United States. The research reinforced the need to bolster local community resources and to reduce the moral hazard issue created when national level agencies took responsibility of local hazard problems. It helped create national-level bureaucratic disaster focal points and assisted in bringing together administrative, planning, and operational functions that were previously scattered. Disasters started to be regarded as nonroutine social problems (Kreps & Drabek, 1996) and were pursued from socioeconomic and political environmental perspectives rather than just a technical one.

This period also identified a series of policy, legal, and institutional arrangements that were indispensable for effective disaster management, namely, a strong legal basis, a capable nodal agency, mechanisms for interinstitutional coordination, ongoing planning and capacity-building processes, public policies that protect people's lives and economic and natural resources, community and stakeholder participation, and the development of an overarching strategic framework outlining how disaster management links with other governance requirements. Moreover, some national-level policymakers and practitioners started to comprehend the aptness of turning away from previous disasters as the sole means for developing future policies, while also coming to an understanding that disasters are embedded in routine decisions and behavior, and the consequences of everyday actions resulting from many small decisions that can cumulatively lead to disaster (Burton, 2005; Hewitt, 1997).

REVIEW OF CONTEMPORARY RESEARCH

For decades governments and their agencies accepted notions implicit in the definitions at the time that the real task of organizing for disaster was to concentrate on preparedness and response. This approach seriously hampered addressing underlying causal issues, and it

weakened hazard mitigation efforts. Even now, practitioners tend to focus on the consequences of disasters, but many do so in a way that has shifted their thinking from a response-focused to a consequence-based analysis. In this respect, their judgment reflects a definitional shift that incorporates political, economic, and cultural ecological perspectives. Disaster management planners are now more likely to ask themselves, "What will the overall societal effects of impact be?" The interest in sustainable hazard mitigation that characterizes contemporary approaches (see Burby, 1998; Mileti, 1999; United Nations, 2005), will consolidate this, although some (e.g., Aguirre, 2002a) point out there is still some serious theoretical thinking to do on this. National-level disaster managers in some countries have spent a great deal of effort thinking about disaster resilience and what it means for social stability.

The approaches used by different nations to manage hazards and their consequences reflect the distinctive characteristics of those societies. Planning and response activities take place within particular governmental systems and are shaped by larger cultural, economic, and political forces, which are starting to be better understood as researchers and practitioners recognize their significance. Situating hazards and disaster management policies in their social contexts can lead to a better understanding of the extent to which both research findings and practices may be generated from one society to another (Tierney et al., 2001, p. 199). However, the point needs repeating that there is a "void in the empirical data base" (Drabek, 1986, p. 79) concerning disaster planning and response on the national level.

To illustrate the distinctiveness of approaches within their contextual settings, three national-level systems—Japan, New Zealand, and the Philippines—will be looked at in detail. All three countries fall into Curtice's (1985) category of liberal democratic governmental systems and Kamrava's (1996) first world democracies. All three countries are multiple island nations roughly similar in size. The countries differ in terms of size of economy and economic indicators, living standard, population size, and density (Table 20.1). While each country straddles the Circum-Pacific Rim of Fire, an ironically poetic label for the sequence of highly active seismic and volcanic sites along plate boundaries surrounding the Pacific Basin, recent studies indicate national differences with respect to natural hazard exposure (World Bank, 2005). Furthermore, there are visible differences in national-level disaster management attributes (Table 20.2). While not portraying the full range of approaches to be found, the three modes illustrated below nevertheless depict the disaster management approaches of, respectively, an affluent, a small, and an emerging economy, and hence should be instructive. The first study, Japan, is currently the world's second largest economy and approaches national disaster management from a strong technology application position that relies heavily on legislation. Each major disaster impact typically results in a new enactment, often with an accompanying requirement to set up a new science-based group to solve the problem (see also Table 20.3). Existing legislation is not rescinded, and a cumbersome legal code has developed. This reinforces Japan's reactive management style and emphasizes development of products (mainly engineering) rather than processes or social structural realignment, which seldom occurs. The use of legislation as a primary vehicle also perpetuates a hazard-specific orientation. By contrast, New Zealand approaches disaster management from an all-hazards risk management perspective that builds on prior institutional reform and instigated in anticipation that a major disaster is inevitable. Based on a national strategy for disaster management, policies are strongly linked to hazard management as a means of avoiding unintended disruptions to national development priorities. This small OECD economy is an example of a country using a process outlook that engages its people and its social structures as the prime resource base. The third case study of the Philippines provides a style that is evident, in part or in whole, in many emerging economies. Here, disaster management decision-making is centralized; international agencies

Table 20.1. Context Factors for Three National Systems[a]

Attributes	Country		
	Japan	New Zealand	The Philippines
Area	• 377,727 km^2	• 270,534 km^2	• 300,000 km^2
Population	• 127.5 m	• 3.8 m	• 78.6 m
Population/km^2	• 337.5 ppsk	• 14.0 ppsk	• 262.0 ppsk
Urban population per 1000 population	• 78.9%	• 85.9%	• 59.4%
Population <15 years/ >60 years	• 14.6% • 23.3%	• 22.9% • 15.7%	• 37.5% • 5.5%
HDI[b]	• 93.2	• 91.7	• 75.1
GDP ($US)	• $3,993 bn	• $58.6 bn	• $78.0 bn
GDP per head	• $31,320	• $15,420	• $990
Hazard exposure[c]	• 10.5% total area exposed to multiple hazards • 15.% total population exposed to hazards • 84% of population in multiple hazard areas at relatively high mortality risk	• 4.3% total area exposed to multiple hazards • 1.7% total population exposed to hazards • 22.4% of population in multiple hazard areas at relatively high mortality risk	• 22.3% total area exposed to multiple hazards • 36.4.% total population exposed to hazards • 88.6% of population in multiple hazard areas at relatively high mortality risk

[a] Source: The Economist (2005). For Japan, see pp. 168–169; New Zealand, see pp. 184–185; for The Philippines, see pp. 194–195.
[b] HDI = Human Development Index, developed by UNDP and combines statistics on average years of schooling, adult literacy, and life expectancy with income levels. Countries scoring higher than 80 are considered to have high human development, those scoring 50–79 medium, and >50 are low (see *The Economist*, 2005, p. 30)
[c] Hazard exposure figures derived from Tables 1.1a and b and Table 1.2b in The World Bank (2005).

are central actors; practices are reactive being primarily focused on responding to impact and a lack of coordination is apparent. In many ways it could be said that Filipino politicians have learnt from several decades of international disaster assistance that a good strategy is to do nothing. However, changes taking place externally will require internal modification, and Philippines decision makers are slowly coming round to appreciate the benefits that effective disaster risk management can have on national development planning.

JAPAN

Since the 1950s the Government of Japan has invested significant financial resources in natural hazard mitigation and prevention. Japanese observers have reported that the government routinely spent between 5% and 8% of the annual national budget (about 0.8% of gross domestic product [GDP]) in disaster reduction, with most of this directed to structural mitigation developments (Sudo, Kameda, & Ogawa, 2000). The most recent figures, for fiscal year 2003, identify a budget of ¥2.7 trillion, about 5% of the total general account budget dispersed by various government departments for research development, disaster preparedness, national land conservation (all for structural mitigation schemes), and disaster recovery and reconstruction.

Japan's first disaster related legislation was enshrined in 1880, although its first attempt to prepare a comprehensive national disaster management system can be traced to the 1961 Disaster Countermeasures Basic Act, prompted in 1959 by a destructive typhoon that left more

Table 20.2. Disaster Management in Three National Systems

	Country		
Attributes	Japan	New Zealand	The Philippines
Overall approach	• Centralized/directive • Fragmented • Reactive	• Decentralized/ cooperative • Inclusive/all-of-nation approach • Proactive	• Centralized/ hierarchical • Fragmented • Reactive
Supporting platform	• Incremental	• "Greenfields approach" to develop best fit	• Ad hoc
Legislation characteristics	• 1961 *Disaster Countermeasures Basic Act* • 15 generic Acts • 28 hazard-specific Acts • Reactive	• 2002 *Civil Defence Emergency Management Act* • Risk-based • Proactive • Empowering	• 1978 *Presidential Decree 1566* • Reactive
Disaster management approach	• Product-focus • Impact-based • Technical research/response	• Process-focus • Consequence-based • Mitigation/response	• Task-focus • Impact-based • Response-focus
Decision-making style	• Reactive	• Proactive	• Static-reactive
Level of specificity	• Hazard specific • Structural mitigation dominates	• All-hazard • Integrated mitigation • Promote risk reduction	• Nonspecific
Focal agency attributes	• Cabinet Office • Nonmilitary head • Policy-advice • Operational advice	• Ministry within Department of Internal Affairs • Nonmilitary head • Policy advice • Operational control • Warning advice/ responsibility	• Department of Defence • Military head • Operational control (OCD) • Policy coordination (NDCC)

than 5000 dead. This keystone legislation defines essential administrative policies at each level of government and for 60 designated public corporations under the Disaster Countermeasures Basic Plan. Both instruments are periodically revised in incremental fashion following major impact, the most recent of which took place following the 1995 Hanshin-Awaji earthquake, the 2004 Niigata-ken Chuetsu earthquake, and the 2004 typhoon season; at the time of writing a further revision was under consideration following the 2005 Fukuoka-ken Seiho-oki earthquake. Before 1961, Japan "had an improvized policy focused on rendering aid and providing financial assistance to victims" (Palm & Carroll, 1998, p. 87). Under the 1961 law, national level councils, ministries and agencies are responsible for updating the Basic Plan and developing operational guidelines. At the next tier, Prefectural governments are charged with the execution and coordination of disaster operations and preparing Prefectural-level prevention

Table 20.3. Relevent National-Level Disaster management Actions in Japan

General Legislation
• 1880: Provision and Saving Act for Natural Disaster
• 1899: Disaster Preparation Funds Special Account Act
• 1947: Disaster Relief Act
• 1947: Fire Organization Act
• 1951: Act Concerning National Treasury Share of Expenses for Recovery Projects for Public Civil Engineering Facilities Damage due to Disasters
• 1961: Disaster Countermeasures Basic Act
• 1962: Act Concerning Special Financial Support to Deal with the Designated Disaster of Extreme Severity
• 1972: Act Concerning Special Financial Support for Promoting Group Relocation for Disaster Mitigation
• 1987: Act Concerning Dispatch of Japan Disaster Relief Team
• 1995: Partial Revision of Disaster Countermeasures Basic Act
• 1996: Act Regarding Special Measures to Weigh the Preservation of Rights and Profits of the Victims of Specified Disasters
• 1997: Act for Densely Inhabited Areas Improvement for Disaster Mitigation
• 1998: Act Concerning Support for Reconstructing Livelihoods of Disaster Victims
• 1998: Comprehensive National Development Act
• 2000: Housing Quality Assurance Act
• 2004: People Protection Law
Research-Related Initiatives
• 1880: Establishment of the Seismological Society of Japan
• 1925: Establishment of Earthquake Research Institute, Tokyo Imperial University
• 1951: Establishment of Kyoto University Disaster Prevention Research Institute
• 1963: Establishment of National Research Institute of Earth Sciences and Disaster Prevention
• 1969: Establishment of Coordinating Committee for Earthquake Prediction
• 1974: Establishment of Coordinating Committee for Prediction of Volcanic Eruption
• 1981: Basic Plan for Research and Development on Disaster Prevention (revised June 1995, June 1997, May 2000, December 2000)
• 1995: Establishment of Headquarters for Earthquake Research Promotion
Hazard-Specific Legislation
• 1897: Erosion Control Act
• 1897: Forest Act
• 1908: Flood Prevention Association Act
• 1911: Flood Control Expenditure Funds Special Accounts Act
• 1949: Flood Control Act
• 1952: Meteorological Service Act
• 1956: Seashore Act
• 1958: Landslide Prevention Act
• 1960: Soil Conservation and Flood Control Urgent Measures Act
• 1962: Act of Special Countermeasures for Heavy Snowfall Area
• 1964: River Act (1896 Act revised)
• 1966: Act for Earthquake Insurance
• 1969: Act Concerning Prevention of Steep Slope Collapse Disaster
• 1970: Marine Pollution Act
• 1975: Act on Prevention of Disaster in Petroleum Industrial Complexes and other Petroleum Facilities
• 1978: Act on Special Measures for Active Volcanoes (originally the 1973 Act Concerning Improvement of Refugees etc. in Areas of Active Volcanoes)

(*Cont.*)

Table 20.3. (*Continued*)

Hazard-Specific Legislation
• 1978: Large-Scale Earthquake Countermeasures Special Act (Basic Plan for Earthquake Disaster Prevention)
• 1980: Special Fiscal Measures Act for Urgent Improvement Project for Earthquake Countermeasures in Areas under Intensified Measures Against Earthquake Disaster
• 1995: Act for the Statement of Principles and Organization of the Great Hanshin-Awaji Earthquake Revival
• 1995: Earthquake Disaster Management Special Measures Act
• 1995: Partial Revision of Disaster Countermeasures Basic Act and Large-Scale Earthquake Countermeasures Special Act
• 1995: Act for Promotion of the Earthquake Proof Retrofit of Buildings
• 1998: Building Standard Law revised
• 1999: Special Measures of Nuclear Disaster Act
• 2000: Building Standard Law Enforcement Order revised
• 2000: Sediment Disaster Countermeasures for Sediment Disaster Prone Areas Act
• 2004: Law on Special Measures for the Tonankai and Nankai Earthquakes
National-Level Structures
• 1941: Establishment of Tsunami Warning Organization
• 1948: Establishment of Board of Inquiry for Prevention of Damage from Earthquakes
• 1952: Establishment of the National Fire Fighting Headquarters
• 1956: Establishment of Japan Meteorological Agency
• 1960: Establishment of the Ministry of Home Affairs Fire and Emergency Management Agency
• 1962: Establishment of Central Disaster Management Council
• 1963: Formulation of Basic Disaster Management Plan
• 1984: Establishment of Disaster Prevention Bureau in National Land Agency
• 1992: General principles relating to Countermeasures for Earthquakes directly below the Southern Kanto Region
• 1995: Amendment of Basic Disaster Management Plan
• 1997: Amendment of Basic Disaster Management Plan
• 1998: Amendment to Japanese Building Standard
• 1999: Amendment of Basic Plan for Earthquake Disaster Prevention
• 2000: Amendment of Basic Disaster Management Plan
• 2001: Earthquake Insurance system amended
• 2001: Establishment of Disaster Management Section in Cabinet Office in Connection with restructuring of Government ministries and agencies

Source: Bosner (2001), Cabinet Office (2005), Fire & Emergency Management Agency (2005), Palm (1998), Palm & Carroll (1998).

plans. Below this, municipal governments have responsibility to include specific disaster prevention operations on site and prepare a municipal plan. In practice, however, many decisions are deferred to higher levels in the hierarchy before action can be taken.

Another foundation enactment is the 1998 Comprehensive National Development Act which stipulates "making Japan a safe and comfortable place to live." This has been defined as improving the country's safety with regard to large-scale earthquakes and other natural disasters (Government of Japan, 2005). Specific objectives entail establishing a disaster-resilient transport and communications infrastructure; introducing public works design standards; promoting the assurance of earthquake-resistance capacity in buildings; establishing an earthquake watch network; promoting research into disasters and their prevention; assessing and publishing the degree of risk of local disasters and reflecting the information in local development and land

use; providing disaster management manuals for local, corporate, and administrative bodies; and provisions for people requiring help in the event of disaster.

More recently, the People Protection Law, promulgated in 2004, obligates central government to develop a full security system for the nation which covers "the proper and prompt implementation of measures to protect people, using its own initiative and employing every available resource including its organization and functions" (Fire & Emergency Management Agency, 2005). It is unclear, however, how these legislative pillars and their planning accompaniments either bind or build upon the plethora of existing individual acts, national-level structures, national-level research initiatives (see Table 20.3) and other related national-level actions; or how it is being used to mold legislation and planning being pursued ahead of a series of specific anticipated future large earthquakes (Government of Japan, 2005; Higashida, 2005). It is also uncertain how recent debates about the use of Japan's Self-Defense Forces (SDF) will ultimately be used in a civil society context (see Nakamura, 2001; Schoff, 2004).

An additional contextual element is the Japanese risk management standard (JIS, 2001). In general, standards are self-regulatory generic system standards designed to help modify extremes of management behavior by providing information (Fernandez & Britton, 2004). A distinctive feature of the Japanese standard is a section on establishing disaster response procedures and preparation. The Japanese approach to risk is that it is a "top management" issue and hence there is little need for risk communication with its emphasis on feedback. Moreover, while the risk management approach has been useful as a research and practice tool by some Japanese researchers (Britton, 2004), and whereas the private sector demonstrates signs of exercising this standard, the government shows no knowledge of it (Fernandez, 2005).

Japanese research associated with the 1995 earthquake in Kobe (see Nakamura, 2000, 2001) concludes that the disaster revealed central and local government neglect in vital aspects of disaster management, where rivalry, competition, and failure to use designated focal agencies added to the stress of impact. In fact, Nakamura states that, "in Japanese public administration, successful disaster management rarely occurs" (2002, p. 23). Supporting his case with additional post-Kobe examples, he suggests that a lack of policy coordination is a perennial problem that neither organizational realignments nor establishment of new agencies has solved. While many lessons were learned (see Bosner, 2001, 2002; Eisner, 2000; Nakamura, 2000), many of which have resulted in greater central government centralization (such as the Prime Minister being able to order the Self-Defense Force to engage in rescue work if a request is not received from a stricken area within an hour), other issues have surfaced that the central government has yet to find suitable solutions for. For instance, Nakamura (2001) reports that the nation's economic downturn produced fiscal retrenchments at the local level that have significantly hit crisis management programs; and notes that public officials often consider disaster programs to be nuisances that interfere in routine administrative tasks.

A spate of widely publicized corporate transgressions from 2000 and into 2005, in sectors as diverse as the motor, food processing, amusement, power generation, and distribution industries, as well as unfathomable penalties meted out to whistleblowers, has resulted in public safety becoming a major political problem in which the populace look upon crisis management in a negative manner. This may help explain in part the findings of a study conducted in mid-January 2005 of 500 respondents from seven communities impacted by earthquakes in July 2003, and September and October 2004 wherein 60% of respondents had not taken any subsequent measures, and that on average 40% of respondents over the three earthquakes did not initiate strengthening measures on their dwellings (*Home quake measures still lax*, 2005). This relatively low level of personal action supports Palm's (1998) previous observation that the Japanese are more inclined to prefer government to take control on disaster-related issues,

even if it does result in higher taxes. Likewise, Bloomberg reported that Japanese firms lag behind their overseas competitors to initiate business recovery preparations, apparently being lulled by the notion that a severe earthquake in Tokyo would destroy their competitors as well as them, rather than the reality that a prepared competitor is more likely to survive and be in a relatively good position to capture a greater share of business ("Morgan Stanley," 2005).

Two additional factors are raised with respect to the national-level system. The first is highlighted by a newspaper editorial in the Japan Times ("New Rules," 2005) wherein central government is reproached for developing a separate crisis management system for "new" threats (i.e., military, terrorist, or missile attack) rather than improving the existing natural hazard-based programs and restructuring existing organizational arrangements to create a comprehensive system. The editorial identifies some perennial issues associated with the Japanese bureaucracy (see also Chalmers, 1995, pp. 115–140). The first is a tendency toward compartmentalization that results in less than ideal interaction amongst relevant offices. The second is a proclivity to create a new organization when a new task has been identified rather than to incorporate the activity into an existing organization. A third is the tendency to focus on refining technical solutions and products rather than dealing with implementation processes. If new initiatives can be defined as technical, they can be developed in a relatively unfettered manner, even if this results in duplication of effort or jurisdictional overlap. The alternative, innovation through the establishment of new principles, would necessitate the creation of new norms or institutions (Eisenstadt, 1996) that would upset the complex and enduring social practices that put strict codes of behavior on relationships (Nakane, 1997). By opting to develop a separate system to cater for "new threats" (even though, as the editorial reminded its readers, the nation already has military emergency legislation), the national-level system maintains its incremental approach.

The second factor is Japan's proclivity to look to the United States, and in particular Federal Emergency Management Agency (FEMA), for inspiration even though structural configurations between the nations' focal agencies differ (Bosner, 2001, 2002); emergency services have different arrangements (in Japan they are national agencies); the nature of and relationship between central and local governments are not the same; power and authority relations are different; substantial differences exist in sociocultural behavior patterns (Nakamura, 2001); and at the same time FEMA itself is heading in new directions (Tierney, 2005a). The Japanese and Americans have had a formal research link for the social sciences since 1972 (the first meeting was held at the Disaster Research Center in Columbus, Ohio). This link was further cemented in the mid-1990s when U.S. President Clinton and Japan Prime Minister Hashimoto endorsed binational cooperative activities to improve earthquake disaster policies and programs (Palm, 1998), and lately top-level discussions suggest the United States is very keen for collaboration to continue on a wider crisis management front (Schoff, 2004). The U.S. Incident Command System (ICS) is also being investigated by Japanese social science academics who have government funding to create an accreditation system for standardized training and to prepare a human resources development curriculum for systematic learning (Sadohara, Shigekawa, Hayashi, & Chinoi,2005). The project itself is part of a wider program of work looking at disaster prevention initiatives in the United States to ascertain what might be useful for Japan.

Such a course of action seems to be normal practice in Japan. For example, Sorensen's (2002) analysis of Japanese urban planning suggests that it is normal for academics to be instrumental in crafting practitioner-related actions based on overseas practices. He illustrates how the Japanese excelled in their ability to borrow, adapt, and to innovate technical aspects of planning, and to produce a systems based on best practice in the west, although its application

fell short: the nation's planning scheme has not taken in hand the major issues (Sorensen, 2002, pp. 347–348). Sorensen also notes that public support for city planning was inhibited because of the narrow (academic) base from which it was conducted. Since the Kobe earthquake, however, attempts to remedy the latter issue have been made and the importance of voluntary activities in disaster reduction has been underscored in the Disaster Countermeasures Basic Act, which requires central and local public bodies to "endeavour to provide an environment conducive to the performance of voluntary disaster risk reduction activities" (Government of Japan, 2005, p. 3). Another issue associated with planning includes the issue of land-use management tools not being widely implemented for urban hazard management (Banba et al., 2004), while another issue associated with relying on the research community is that a single hazard focus remains dominant (Fernandez, 2005, p. 93).

NEW ZEALAND

For more than a decade New Zealand's disaster management system has been systematically moving from a conventional response-oriented arrangement to a comprehensive emergency management approach that links hazard analysis and impact assessment with land-use planning and resource management. Within an all-of-nation approach, the national-level system has been building platforms to develop a multiagency, all-hazard arrangement for circumventing, planning for and recovering from significant disaster. The intention is to introduce more robustness into New Zealand social systems when dealing with uncertainty by linking disaster management with sustainable hazard mitigation and sustainable development.

For decades, New Zealand followed the British model when it developed an Emergency Precautions Scheme (EPS) under the Emergency Precautions Act 1939. This scheme initially created structures to protect public for wartime events, and so by the end of the 1939–45 conflict most of the EPS organizations had disbanded. The concept remained, however, and in 1953 a Local Authorities Emergency Powers Act 1953 gave local government functions and powers to respond to natural hazards as well as war-like threats. A 1958 Review of Defence identified that defence planning would have to take into account the possibility of a direct attack with nuclear or non-nuclear weapons, and that a major role of the defence force would be to protect the civilian population. This led to the formation of the Ministry of Civil Defence in 1959 (Department of Internal Affairs, 1995), and the ensuing Civil Defence Act 1962 focused on protecting the public in the event of major disaster, a nuclear or other armed attack.

This orientation continued to be the basic building block until the 1990s when a number of reviews, reports, conferences, and workshops questioned the effectiveness of New Zealand's overall disaster management practices. A report by the Law Commission (1991) identified changes needed in executive powers to deal effectively with a national disaster, suggesting a review of relevant legislation. In like manner, in 1991 a major study of how utility lifelines would perform following a maximum credible earthquake in the Wellington region revealed a series of significant vulnerabilities that had not hitherto been considered (CAE, 1991). A 1992 review of civil defence found that reforms in the public sector that occurred since the passing of the Civil Defence Act 1983 (an update of the 1962 legislation) had "dislocated much of the current Act from modern realities" (Civil Defence Review Panel, 1992), and concluded that existing structures would not cope in a major civil disaster. Two years later, in 1994, the lessons of the Northridge (California) earthquake were the subject of local conferences, revealing inherent weaknesses in local emergency management systems and

identified a need to concentrate on developing coordination between utilities and the emergency services.

The consistency of these messages started to be noticed by central government (Britton & Clark, 2000), and in late 1994, the Minister for Internal Affairs (who also Minister for Civil Defence) hosted a workshop to explore the performance of the emergency services sector and to generate ideas on improvements for the short and long term. The workshop proposed that a comprehensive "greenfields" review of emergency services be undertaken. Subsequently, in April 1995, encouraged by a conference in March 1995 that explored what impact a Kobe-type earthquake would have on Wellington (CAE, 1995), Cabinet appointed a Task Force to review the emergency preparation and response capabilities of the nation's emergency services, most of which are national-level instrumentalities.The review duly acknowledged a number of fundamental issues associated with the existing emergency management system, and noted the limited range of events the system was actually capable of effectively handling, and the narrow focus on preparation and response. At the same time, a number of concerns about the structure of the emergency response system were identified, including issues about cooperation between emergency services (issues about horizontal integration); problems of continuity management, especially if the level of management response may change (issues of vertical integration); the lack of disaster-relevant professional advice and management; and the need for elected authority to make declarations. Throughout its deliberations, the Task Force found there was general consensus of the need for change. Three factors in particular focused this need:

- The unrealistically high public expectations of assistance that was assumed would be provided.
- The reduced capacity of central and local government to respond following public sector reform.
- The need to improve the ability of the emergency services sector to adapt to changing circumstances, learn from overseas experience, and to better coordinate resources.

The Task Force accordingly recommended to the government a replacement national emergency management agency that would have policy as well as operational functions, and a structure to deal with disaster response that would integrate local and central government emergency service providers. The Task Force also recommended that the nation's emergency management system be more comprehensive in outlook and approach. It further suggested the sector move quicker and farther in areas of professional development for emergency managers; it also reinforced the existing view that accountability for declarations of disaster remains the task of elected officials at the most appropriate level of government. These recommendations were endorsed and extended by an Officials Committee established to comment on the report. Central government subsequently made five fundamental decisions:

- In 1996 a set of principles were approved as the basis for an overarching emergency management framework.
- Central government responsibility was redefined to include establishing the emergency management framework and identifying the principles, roles, and responsibilities of all agencies in the sector.
- In 1997 establishment of a new Ministry was approved and came into being July 1999.
- In 1998 the concept of local emergency management consortia (referred to as Emergency Management Groups) was approved based on the framework principles.
- In 2002 the Civil Defence Emergency Management Act was passed which redefined the duties of central and local governments and brought private sector utilities into the

> emergency management strategic decision-making and operational contexts. The Act promoted sustainable management of hazards and risks in a way that contributes to the well-being and safety of the public and property.

The reforms called for a refocusing of attention and action onto the management of risk and the options available for reducing or managing different levels of potential impact. A key component of the New Zealand approach is the application of risk management principles (Britton, 2002), and recent legislation has implicitly, and often explicitly, called for a risk management application. In many cases private sector models for risk management have been modified to meet public sector needs, and while at times this has been difficult it has nevertheless proven useful because it has assisted in integrating risk management into everyday decision making. The framework for the national emergency management strategy is based on a risk management approach developed by Standards Australia and Standards New Zealand (Standards Australia, 1999). This nonmandatory Standard defines risk management as "the culture, practices, processes and structures that come together to optimize the management of potential opportunities and adverse effects." Together with a risk management approach for local governments (Standards New Zealand, 2000), the Standard has been promoted as the basis for developing a risk-based emergency management approach and for communicating the concepts of risk management to groups with emergency management responsibilities. The attempt to involve end-users is not restricted to emergency management practice: the New Zealand Foundation for Research, Science and Technology, a Crown entity that operates on behalf of the government to invest public funds in research, requires successful fund applicants to specifically identify and involve users of intended research outputs (FRST, 2003).

To ensure overall consistency, the 2002 Act requires central government's administering agency to develop a publicly notified national emergency management strategy that sets out goals, objectives, and measurable targets. The strategy is aligned to central government's vision of Resilient New Zealand (MCDEM, 2004). A consultation document widely distributed in August 2003 modified the final statement, which was published in March 2004 (see Table 20.4).

The redesign of New Zealand's devolved emergency management system needs to be put into the context of wider reform practices that have taken place since the early 1980s. Most sectors of the economy have been substantially deregulated, while social policy has changed to remove a perceived dependency on the State by many, toward a needs-based welfare system. Alongside these and other significant changes, many functions of the government have been significantly devolved and commercialized. This was described by some observers as an attempt to "get government out of business while bringing business into government" (May et al., 1996, p. 43). The New Zealand approach requires effort to understand how the natural and created (built) environments produce risk, and how to keep people and property out of the way of hazards that supports economic and social development on the one hand, and reduces social and economic risk on the other. The government's intention is that local authorities will identify hazards and the associated risks within their communities, and will consult communities about this. In this way, both local authorities and communities will know what can be expected, what local authorities are going to do, and what communities and individuals will have to do for themselves. What is important about the changes in New Zealand is that they were instigated in *anticipation* of a major disaster rather than being a reaction to a major event. Moreover, from the perspective of the national-level system, it was central government that took the lead by encouraging a wide-ranging review on how best to manage disasters.

Table 20.4. Main Strands of the New Zealand National Emergency Management Strategy

Principles	Goals and Objectives
1. Individual and community responsibility and self-reliance	1. *To increase community awareness, understanding and participation in civil defence emergency management (CDEM)* • Objective A: increase the level of community awareness of the risks from hazards • Objective B: improve community understanding and participation in CDEM • Objective C: encourage and enable community participation in determining acceptable levels of risk
2. A transparent and systematic approach to managing risks from hazards	2. *To reduce the risks from hazards in New Zealand* • Objective A: improve the coordination, promotion and accessibility of CDEM • Objective B: develop a comprehensive understanding of New Zealand's hazardscape • Objective C: encourage all CDEM stakeholders to reduce the risks from hazards to acceptable levels • Objective D: improve the coordination of government policy relevant to CDEM
3. Comprehensive and integrated hazard risk management	3. *To enhance New Zealand's capability to manage emergencies* • Objective A: promote continuing and coordinated professional development in CDEM • Objective B: enhance the ability of CDEM Groups to prepare for and manage emergencies • Objective C: enhance the ability of emergency services to prepare for and manage emergencies • Objective D: enhance the ability of lifeline utilities to prepare for and manage emergencies • Objective E: enhance the ability of government departments to prepare for and manage emergencies • Objective F: improve the ability of government to manage an event of national significance
4. Addressing the consequences of hazards	4. *To enhance New Zealand's capability to recover from disasters* • Objective A: implement effective recovery planning and activities for the physical impacts of disasters • Objective B: implement effective recovery planning and activities for the social and economic impacts of disasters
5. Making best use of information, expertise and structures	

Source: MCDEM (2004).

THE PHILIPPINES

The disaster management system of the Philippines originated from World War II and geared toward preparations for war. Under the auspices of Executive Order EO335 in 1941, President Manuel Quezon created the Civilian Emergency Administration to manage the population in case war in Europe moved to the Pacific. Under EO335 a hierarchical system was created whereby a National Emergency Commission set out arrangements for Provincial Emergency Committees which in turn supervised and controlled emergency committees at municipal and

city levels. Almost forty years later, this framework was consolidated with the enactment of Presidential Decree PD1566 on June 11, 1978. PD1566 provides for a National Disaster Coordinating Council (NDCC) as the highest policy-making body on matters pertaining to disasters, advising the President. Chaired by the Secretary of Defence, NDCC is ostensibly a coordinating body. However, it does not have a regular budget and operates through member agencies and regional and local disaster coordinating councils. While membership is large, covering most of central government's 20 instrumentalities, the capacity of the agencies is limited, especially in the area of risk reduction. A decade after the Presidential decree, in 1988, a National Calamities and Disaster Preparedness Plan was prepared as a guide for action.

Completing the main national-level apparatus is the Office of Civil Defence (OCD) housed within the Department of National Defence, the intention of which is to coordinate the activities and functions of government, private institutions, and civic organizations. It maintains offices in each of the nation's 16 regions. While NDCC establishes priorities for allocation of funds, services, and disaster relief, subnational disaster coordinating is undertaken through OCD, which issues guidelines to lower-level committees. OCD is also the lead training agency, although programs are not compulsory for non-military disaster-designated personnel: since its first priority is to train Armed Forces of the Philippines (AFP) officers, little capacity remains to make available programs for local government personnel (World Bank, 2004).

In general, disaster management in the Philippines is seen as the responsibility of the central government, with most activities predicated upon a response-oriented practice ideology. Civil society organizations and the private sector have supported these efforts, and while they have primarily been directed to preparedness and response tasks, efforts have been undertaken to reduce risk (Luna, 2000; World Bank, 2004). While there have been some promising initiatives, nonresponse activities tend to be ad hoc, with little evidence of cumulative effect.

The disaster management system is guided by its definition of disaster, stated as "a situation usually catastrophic in nature, in which a number of persons are plunged into helplessness and suffering, and as a result may be in need of food, clothing, shelter, medical care and other basic necessities of life," and purports to support local level activities (NDCC, 2004). Guss and Pangan (2004) suggest this definition probably relates to the experience of disasters as frequent and powerful while acknowledging the country's lack of resources and infrastructure. However, while the assumption is that arrangements assist local levels, in reality the structure does the reverse: PD1566 perpetuates an unwieldy centralizing system. The arrangement comprises six levels encompassing almost 46,000 separate administrative units (Fig. 20.1), administered in a top-down manner. It is difficult to effectively operate, and there are few incentives for local level initiatives. For example, under NDCC provisions, while each operating level can "submit recommendations as necessary," all are required to adhere to guidelines established by the level above. Similarly, of the 1645 barangays (the basic political unit and primary implementing unit of government) in the Metro Manila area, only 220 have "some kind of disaster management organization" and 5 of the metropolitan area's 14 cities and three municipalities have operational disaster management bodies with legal support through approved ordinances (Castillo, 2005). It is widely acknowledge that the current legislation is outmoded and hinders activity (World Bank, 2004), while the government seems in no rush to affect changes. Since 2000, for example, at least two proposals for new legislation have been submitted, with the second bill stalled after being with the legislature for 2 years. Part of the current impasse appears to be the number of draft versions in circulation (there are at least 15 versions) and lack of access to them by interested parties.

The need for greater coordination is well recognized by almost all disaster-relevant agencies within the Philippines (Carlos, 2001). The type of coordination operators' state they need

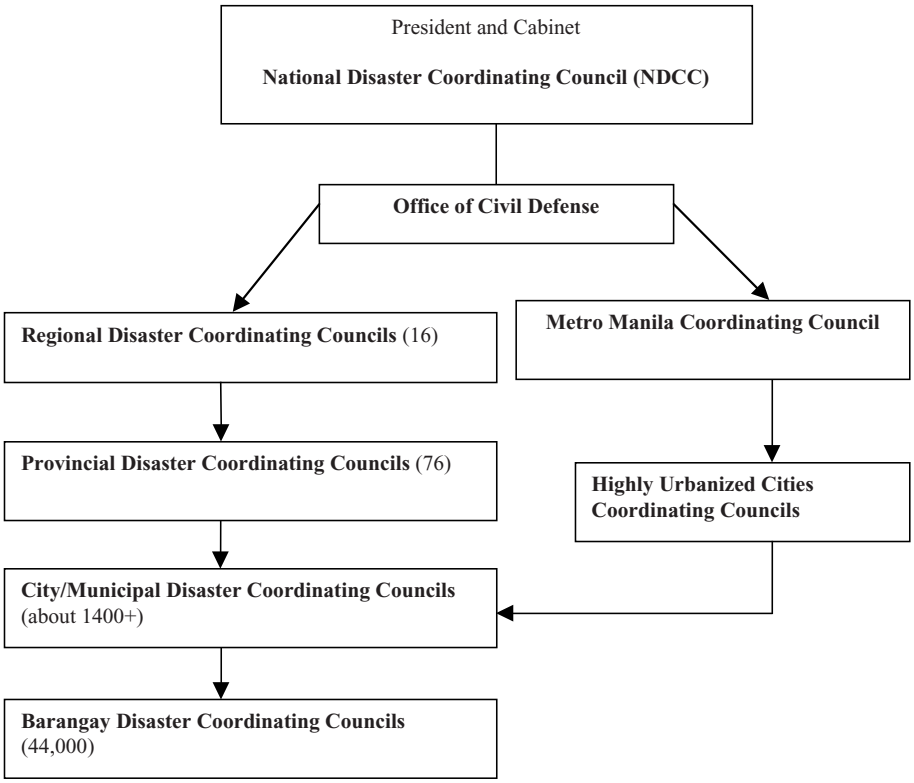

Figure 20.1. Institutional Arrangements for Disaster Management

is a proactive, participatory and enabling one and not the top-down oversight orientation they have. Greater organizational, management, and task synchronization are identified as prerequisites (ibid) that should extend across-the-board at all levels of the Philippines disaster management system. Related to this is the promotion of a risk reduction approach: many stakeholders have expressed concern that the current system is too ad hoc (World Bank, 2004), and lacks a strategic framework. Carlos (2001) asserts that the critical issues raised by key actors indicate that what is actually happening on the ground may not be what is stipulated in national-level disaster management initiatives and laws: she points out that the Philippine is continuously confronted with new disaster challenges and concerns which requires anticipatory measures and strategies rather than a reactive approach and a culture of concentrating on response. On this note, one encouraging sign is to note that the nation's disaster management system is highly dependent on donor and multilateral institutional assistance. A noticeable shift is being articulated, if not acted on, by the international community, which is becoming less supportive of repeatedly providing relief assistance and is realizing the value of integrating disaster risk management into development efforts. If this direction is maintained it is likely to force fundamental changes in the Filipino system.

This links to the main challenges facing the Philippines in the medium term, which remain reduction of poverty and continuing to overcoming institutional inertia in recognizing natural hazards as an obstacle for long-term sustainable development (World Bank, 2004), while dealing with practical problems of organization, finance, inefficiency, and incompetence (Bankoff, 2003, p. 90). The Philippines government has been embarking on a process

of integrating disaster mitigation and sustainable development issues since 1991, within its Medium Term Philippine Development Plans, under the Development Sector Administration. Progress is slow, however: the most recent Medium-Term Philippine Development Plan 2004–2010 (NEDA, 2004) has statements acknowledging the damage natural disaster does to the nation but not how this vulnerability jeopardizes national economic goals, and offers no guideline for action. Local governments are required to integrate disaster management plans into local development plans, but few have done so. Notwithstanding these initial developments, however, the effectiveness of disaster management is still being seriously challenged (Bankoff & Hilhorst, 2004).

NEXT STEPS—WHERE WE MIGHT GO FROM HERE

The essence of this brief discussion on national systems is that central government has a special responsibility in relation to disaster management and that these roles are carried out in different ways that reflect cultural values and assumptions, including previous disaster experience. It has been repeatedly stated throughout this discussion that there is insufficient empirical data at the national systems level: the "void in the empirical data base" to which Drabek referred in 1986, nearly 20 years ago, is still there. Similarly, the issues identified by Tierney and her colleagues (2001) remain unexplored but still fundamental, namely: How do governmental structures and policies influence preparedness and response activities? Under what conditions and for what tasks does centralization work best? How do broader societal forces shed light on which hazard management activities are organized and the reasons why particular hazard adjustments are preferred over others? and Why do some approaches to loss reduction succeed in particular societal settings while failing in others and still others are not considered at all?

Added to this is the trend identified by Handmer (2000) concerning the increasing involvement of private enterprise in functions formerly provided by government. He suggests there is nothing inherent in aspects such as warning systems or disaster management to make them exempt from this general trend, and that in some nations, such as the United States, there have long been public/private sector partnerships to deal with flood and other weather warnings. Questions to be asked about this issue range from clarifying the responsibilities of governments to what mechanisms are needed to ensure effective service delivery, and whether these mechanisms are universal or specific to cultures or governance types. This leads to thinking about the implications of globalization in the context of national systems and disasters: this is an uncharted field.

Another area requiring assessment, which is a variation on an issue voiced by Tierney and associates above raised by practitioners Angus (2004) and Norton (2004), pertains to the appropriateness of centrist and dispersed models of accountability. Norton highlights the lack of central government trust in local capability and the tendency of central bureaucracies to turf silo, which he sees as an impediments in moving from the conventional response/reactive approach to the new environment of disaster risk management. How significant is this as an issue? What is the relationship between trust and control? Is lack of trust characteristic of some, or all governance types?

Hilhorst (2003) recognizes another fundamental issue by identifying the question of perception: the particular way a situation or an issue is perceived influences the manner in which responses are formulated. Her point is that the way a government and its officials see a disaster is not necessarily the same as a community and its citizens see the phenomenon. But, does the type of governance model play a role in how officials perceive and act on disaster?

Issues about trust and perception prompt further questions on the role the mass media has in national planning and response. Scanlon (2005), for instance, noted that governments have been known to censure and control media reporting of specific disaster episodes. He also pointed out there is no accepted definition about what is "news." Since the role of the media is potentially significant, in terms of reporting on and recording disasters, as well as framing public opinion and shaping governmental views, more effort should be directed to understanding the role of the media in the development of national disaster management policies.

Several other issues demand attention. For instance, how do the actions laid down by national-level systems during disaster response affect what takes place during later recovery activities? More specifically, how can central governmental assist long-term recovery by not impeding it in the initial stages of disaster? This leads to a wider issue about the need to undertake research on how central governments make decisions, prioritize risk, and balance risk management and disaster mitigation with other community needs. It also reintroduces an issue highlighted by earlier research, namely that disasters tend not to be politically salient until after they happen (Rossi, Wright, & Weber-Burdin, 1982; Wolensky, 1977; Wolensky & Miller, 1981). Hence, a question to be asked is has this situation changed after the decade-long IDNDR, its successor (ISDR) and events such as the December 2004 Indian Ocean earthquake and tsunami?

A final area to benefit from further study relates to understanding the differences between planning and responding for disaster in contested environments and where lack of consensus is a characteristic. Most of what we know about disasters and governance has been gleaned from nations that are not torn by internal conflict. Research needs to be conducted to determine what insights can be transferred to nations that are politically unstable, such as Kosovo, the Sudan, Sri Lanka, or in areas such as Iraq or Indonesia. What differences need to be taken into account? What criteria should be employed?

Appendix 1. Governmental Tasks Associated with Disaster Risk Managment

1. Disaster management as a national-level issue	Disasters are embedded in routine decisions and behavior and cannot be regarded only as low-probability–high consequence events that, with luck, may not occur. This shift in perspective requires national-level leadership, coordination, planning, and execution. Disasters have the potential to cause significant economic loss, social and psychological dislocation, and widespread physical injury and death, and are therefore not a specific sectoral issue, but a problem for entire communities and the nation.
2. Developing national strategies	Vulnerabilities change and it is essential to understand and address them as best we can. Nations are likely to face more and worse impacts in future. Developing appropriate countermeasures requires a systematic and coordinated approach. Central government, working with other groups, is the only sector that has a commission to develop nationwide strategies with power to bind, power to commit public resources and influence private resources.
3. Regulatory requirements	Sovereign governments typically comprise three distinct sets of offices, which together distinguish it from other sectors. The role of the *legislature* is to make the law; the *executive* is responsible in formulating proposals for new laws and for implementing the law; and the *judiciary* is responsible for interpreting the law and its application in specific cases. These functions provide the machinery through which government maintains community values. The level of importance a nation places on disaster management is reflected in wider community values; changes in those values are legitimated through governmental processes that enact, implement, and review regulatory functions.

(*Cont.*)

Appendix 1. (*Continued*)

4. National provision for public safety	A fundamental responsibility of central government is its authoritative exercise of power to provide for the safety and security of its citizens. This duty typically focuses on (1) providing a national defence system to protect sovereign soil from acts of aggression by hostile forces and (2) ensuring mechanisms to mitigate and manage the disruptive influences of natural, technological, and biological hazards. Differences exist among nations on how these two areas are resourced and structured.
5. Best use of scarce resources	To the extent that revenues used for disaster management are largely derived from public treasuries, government has a responsibility to ensure this resource is used wisely. This requires communities to adopt and implement risk reduction, hazard mitigation, and awareness measures. Governments are also potential disaster victims because they have investments in vulnerable infrastructures located in hazard-prone areas. Hence, it is important that they adopt measures to protect their own human, material, and financial investments. These measures should be commensurate with those required of the wider community.
6. Resilience	Government assumes a major responsibility for ensuring that disaster management is appropriately implemented. Effective disaster management reduces the likelihood of and impact from disasters. It also reduces the probability that members of the community who are not directly affected by the physical impact will be indirectly affected by the interruption of normal flows of goods and services. Hence, it is in government's interest to minimize community disruption, maintain essential goods and services, and ensure continuity of community by encouraging mechanisms that foster resilience.
7. Sustainability	It is wasteful not to develop sustainable hazard management programs: risk reduction and disaster prevention is likely to be cheaper than disaster recovery. Sustainable hazard management actions not only minimize damage, but also promotes a stable environment, provides incentives for investment and enterprise, as well as a sense that people can control their own economic destiny.
8. Risk management coordination	Government-sponsored risk management programs now attract increased attention by policymakers at the highest levels of government and the electorate. No matter what the source of risk to human life, safety, and well-being, electorates insist government reduce uncertainties associated with hazardous events, and design and enforce policies to mitigate their effects. Successful risk and disaster management is dependent upon strong cooperation and coordination among and within levels of government, volunteers, and the private sector. The most likely actor to achieve this is central government: it has a mandate to legislate requirements and promote community values within a public good context.
9. Economic management	Disasters destroy decades of human effort and investments, and threaten sustainable economic development by placing new demands on society for reconstruction and rehabilitation, and by diverting scarce resources away from planned activities that have been agreed to by the population. Disasters are costly in both immediate losses and in long-term consequences. They halt and in some cases, reverse economic progress. As the nation's economic manager, it is prudent for government to minimize circumstances that may disrupt markets.
10. Social equity	How governments choose to deal with both development and disaster issues has significant social, economic, cultural, and political implications. Many current approaches transfer risk to those who cannot object effectively, such as less powerful group or future generations. Government has a responsibility for considering these issues of social equity in its policies.