Comparative Politics and Disasters:
Assessing Substantive and Methodological Contributions

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Abstract
The following chapter illustrates how the discipline of comparative politics may help increase our understanding of disasters in other countries as well as promote more effective emergency management institutions and practices domestically and abroad. In seeking to reach this objective, the nature, goals, history, and background of comparative politics will first be mentioned. The chapter will then discuss the underappreciated method of comparison, and identify a number of subject areas that have been examined or could be addressed by this discipline in the future. The major argument to be made is that the comparative method makes unrecognized contributions to disaster studies and will continue to do so as research advances in the United States and in foreign territories.

"Nations can only be understood in comparative perspective" (Lipset 1990, xiii).

"The significance of disaster . . . is brought sharply into focus when one takes a cross-cultural and international view" (Dynes 1988, 102).

Introduction

According to the renowned disaster sociologist, Thomas Drabek, the field of

emergency management is currently being professionalized and internationalized

(McEntire 2001). These changes imply that emergency managers are now more

knowledgeable than they were in the past, and suggest that there is increased effort to expand this valued area of public service to other countries.

Although a great deal of attention is being directed toward the increasingly recognized profession in terms of new degree programs, additional academic journals and recurring conferences sponsored by emergency management associations, we lack understanding of disasters and emergency management institutions around the world. This not only calls into question the benefit of applying research from the United States to other nations, but it also limits improvements in the field in this country because lessons are not sufficiently drawn from the positive and negative experiences of others. The obvious outcome is that disaster prevention and management is hindered, both here and elsewhere.

With this preface in mind, the goal of the following chapter is to illustrate how the discipline of comparative politics may help increase our understanding of disasters in other countries as well as promote more effective emergency management institutions and practices internationally. In order to reach this objective the nature, goals, and historical background of comparative politics will first be discussed. The chapter will then discuss the underappreciated method of comparison, and identify a number of subject areas that have been examined or could be addressed by this discipline in the future. The major argument to be made is that the comparative method makes unrecognized contributions to disaster studies and will continue to do so as research advances across foreign territories.

Comparative Politics and its Relation to Disasters

The discipline of comparative politics is the study of political systems and processes around the world (Hauss 1997). It is an area of scholarship that is interested in understanding all nations and the political activities that take place within them. This being the case, comparative politics is sometimes known as comparative public policy – "the study of how, why, and to what effect different governments pursue particular courses or action or inaction" (Heidenheimer, Heclo and Adams 1990, 3). Regardless of the actual title of the discipline, comparative politics might be the only field of study based on an explicit methodology. Its approach to research includes comparing and contrasting variables to identify why change occurs, what makes for a successful government, and how policy can be made effective. According to Wiarda (1993, 12), comparative politics "is particularly interested in exploring patterns, processes, and regularities among political systems." He further adds that students of comparative politics generally undertake the following types of research: studies of one country, studies of two or more countries, regional or area studies, studies across regions, global comparisons, and thematic studies (Wiarda 1993, 12-15).

As can be seen, comparative politics is an offshoot of political science, and it initially reflected "significant concern for both historical perspective and the norms of political behavior" (Bill and Hardgrave 1981, 2). Although this area of scholarship can trace its roots to the late nineteenth and early twentieth centuries, it did not really emerge "as a distinct subfield of political science until the two decades between the two world wars" (Rustow and Erickson 1991, 1). This was a period when scholars became consumed with understanding why conflict broke out in Europe, how new government

institutions were fairing, and what could be done differently to ensure political stability and prevent similar events from recurring. After World War II ended and the international community entered the Cold War era, interest in comparative politics grew dramatically. While the United States and the Soviet Union were aligning themselves with their respective allies, scholars began to examine the plethora of countries that made up the Third World. Their goal was to comprehend what these nations looked like and how they might become more like those in the West (or East if you were from the communist block). Comparative politics thus developed a close relationship with sociology, anthropology, economics and other disciplines in the social sciences.

While comparative politics is related to many fields of study, it has not contributed directly to the study of disasters. Indeed, it would be difficult to find any substantial discussion of disasters by scholars of comparative politics. However, it is interesting to note that Green (1994, 143), Walker (1994, 157), Chirot (1994, 174) and others have traced foment for the revolutions in Iran, Nicaragua and the Soviet Union to natural and technological disasters (e.g., earthquakes, Chernobyl) and the preferential distribution of relief afterwards. Nonetheless, comparative politics has remained, for the most part, aloof from disaster studies. But this is not to imply that comparative politics could not benefit the study of disasters, because there are a number of issues that overlap considerably between the two fields (see table 1 below). Disaster researchers have already recognized the value of these issues and have produced some very important findings in these areas (Mileti 1999; Peacock, Morrow and Gladwin 1997; Birkland 1996; Drabek and Hoetmer 1991; Schneider 1995; Dror 1988; Wisner et. al. 1994). More research in these subject areas is needed however. For instance, how do cultures around

the world view disasters? Why do class relations have such a large impact on disaster vulnerability? What can be done to increase political support for disaster mitigation policies? Are intergovernmental relations problematic in foreign disasters? What steps can be taken to improve emergency management around the world? Do models such as incrementalism, group think, or misperception shed light on decision making before and after disasters? What is the relationship between development and disasters? These are only a few of the questions that could be addressed by scholars interested in comparative politics.

Table 1

Subject Area	Application to Disaster Studies
Political Culture	What values and attitudes affect disaster policy?
Socioeconomic Status	How do poverty/powerlessness relate to vulnerability?
Interest Groups	Why is apathy towards disasters so common?
Institutions/State	How do governments/agencies operate in disasters?
Public Policy	What makes emergency management effective?
Decision Making	Why are choice difficult to make in disaster situations?
Development	Does modernization increase/decrease vulnerability?

Methods

The greatest potential contribution of comparative politics to disaster studies is in the area of methods. In fact, comparative politics defines itself by "a methodological instead of substantive label" (Lijphart 1971, 682), and this method may do much to advance the study of disaster. But, what exactly is the comparative method and how does it relate to other research methodologies? What problems are inherent in comparison and how can these be overcome? Finally, what are the benefits of comparative research?

First, the well-known comparativist Arend Lijphart "defines the comparative method as the analysis of a small number of cases, entailing at least two observations, but

less than about twenty" (Collier 1991, 8). Sartori suggests that this analysis of comparing "is both to assimilate and to differentiate" (1991, 246). He then adds:

> If two entities are similar in everything, in all their characteristics, then they are the same entity. If, on the other hand, two entities are different in every respect, then their comparison is nonsensical . . . . The comparisons in which we sensible and actually engage are thus the ones between entities whose attributes are in part shared (similar) and in part non-shared (and thus, we say incomparable) (Sartori 1991, 246).

Prezworski and Teune (1970) also note, however, that our comparisons may be based on most similar or most different designs.

The comparative method is similar to other methods in the social sciences because much of the subject matter in this area does not lend itself to the scientific rigors of experimentation (Lijphart 1971). Nevertheless, comparison lies between the case study and statistical methods because of its modest scope. On the one hand, case studies are utilized to describe, generate hypotheses, confirm theory or expose deviant situations. They are relatively easy to conduct, but they do not allow for far-reaching generalizations. On the other hand, the statistical method is employed to control relationships by mathematically manipulating dependent and independent variables. Although statistics approximates experimentation, this type of method can be very time consuming and expensive (due to the large number of variables involved). The comparative method is thus less difficult to utilize than the statistical method and it also helps to generate stronger conclusions than the case study method.

This is not to say that the comparative method is void of problems. Sartori (1991) has identified five typical problems with this method:

1. Parochialism – focusing on one country only and failing to incorporate and build upon prior research.
2. Misclassification – placing phenomena into pseudo classes.
3. Degreeism – finding it difficult to choose between continuums and categories.
4. Conceptual stretching – implying that certain words mean everything (e.g., for ideological purposes).
5. Incommensurability – failing to find a common measure for different systems or variables.

But these challenges need not be insurmountable. They can be overcome by increasing the number of cases, reducing the number of variables, and including comparable phenomena in research strategies (Collier 1991).

In spite of these weaknesses, there are a number of advantages associated with the comparative method. It has been suggested that the "comparative method allows systemic comparison which, if appropriately utilized, can contribute to the assessment of alternative explanations" (Collier 1991, 10). In other words comparison helps us to understand, explain, interpret, and verify or falsify generalizations (Sartori 1991, 244). Furthermore, comparison facilitates "thick description" (Geertz 1973) and limits "conceptual stretching" (Satori 1991). Summarizing these points, Collier states:

> Comparison sharpens our powers of description and can be an invaluable stimulus to concept formation. It provides criteria for testing hypotheses and contributes to the inductive discovery of new hypotheses and to theory building" (1991, 7).

Is it any wonder, then, that the scientific method is inherently comparative (Lasswell 1968, 3), or that comparison is regarded to be equivalent to the natural scientist laboratory (Eckstein in Lijphart 1971)?[1]

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[1] This is not to suggest that comparison is the best and only method. Peacock is correct to assert that "it would be bordering on methodological arrogance to suggest that certain forms of comparative research, be they characterized as qualitative, quantitative, case study, cross-national, time-series or longitudinal, or cross-sectional surveys, take precedence over others" (1997, 122). In addition, it is necessary to recognize that the research question should logically determine which method is prescribed.

Ironically, the discipline of comparative politics has been notably slow to fully adopt the comparative method. Macridis asserted in 1955 that the discipline did not live up to its name when it was initially founded. Sartori even declares that not much has changed in the last fifty years:

> Let us squarely face it: normal science is not doing well. A field defined by its method – comparing – cannot prosper without a core method. My critique does not imply, to be sure, that good, even excellent, comparative work is no longer under way. But even the current good comparative work underachieves on account of having lost sight of what comparing is for (1991, 255).

Disaster studies should not make the same mistake.

Potential and Actual Contributions of Comparison

It is evident that comparison enables an understanding of important phenomena. Comparison can help one identify the hazards confront by policy makers, the varying impact of disasters on distinct nations, and the degree of vulnerability in other countries. Comparative work has also been useful to understand emergency management organizations and human behavior around the world. Researchers have likewise produced a number of case and comparative studies which may facilitate understanding of disaster and emergency management internationally. Each of these areas will be discussed in turn.

Hazards around the World

First, the use of comparison helps us to better understand the disasters that may affect nations around the world. The potential for disaster is growing everywhere, but the types of events experienced are based on each country's geography, their use of technology and many other factors.

For instance, African nations face a vast variety of disasters. In 2003, twenty-eight disasters were declared in Africa by the United Nations. The continent is ravaged by floods, droughts, cyclones, earthquakes, and food security emergencies. Moreover, the AIDS epidemic is running rampant throughout many African nations.   Of these, however, eleven were complex emergencies.   A complex emergency is often sparked by a natural disaster and/or political, economic, or environmental stress. Complex emergencies are also marked by political or military conflict that impedes response and relief efforts (Minear and Weiss, 1995, p. 17).

While Africa is overwhelmingly afflicted with complex emergencies, Asia declared only two in 2003. Asian nations more commonly face hydrometeorological hazards. Floods have been the cause of disaster situations in Vietnam, Indonesia, China, and Sri Lanka. Typhoons have wreaked havoc in Korea, Fiji, and the Solomon Islands. In addition to floods and typhoons, drought and epidemics are also a common problem for Asian nations.

 Europe and the Middle East have had to deal with terrorism as a rising source of disaster. Suicide bombers in England, Spain, and Israel have all forced emergency personnel to reevaluate their methods in mitigating and responding to terrorists. In addition to terrorism, fire, floods, and shipping accidents have been the cause of disasters throughout these areas.

In Latin America, geological disasters are declared with some frequency. Ecuador, Chile, Costa Rica, and Mexico have had issues with volcanoes. Mexico has also been damaged by earthquakes. Floods, droughts, and hurricanes also pose threats for countries in this area.

In North America, the United States faces hazards such as terrorism, earthquakes, hurricanes, and tornados. Earthquakes are commonplace in California, tornados ravage the Midwest, and hurricanes menace the Eastern and Gulf coasts. Indeed, the variation of climates and geography make it vulnerable to all types of disasters. Terrorism has risen to new heights of awareness since the coordinated attacks of 9/11. Canada also is at risk from similar hazards. In addition, their northern location presents them with severe winter storms.

Impact of Disasters

Disasters have plagued mankind throughout history. Indeed, tales of floods and famines have been passed down for generations. In this modern age, the occurrence of disasters has only become more frequent. The United Nations reports a steady increase of disasters across the globe (UNISDR, 2004). The International Strategy for Disaster Reduction operates under the mandate to "enable all societies to become resilient to the effects of natural hazards and related technological and environmental disasters, in order to reduce human, economic, and social losses" (UNISDR, 2005). As this trend continues it is important to identify how various nations are affected. In comparing disasters in developed versus underdeveloped countries, it becomes clear that the effects of disaster are not uniform.

The UN/ISDR reports that the countries most severely affected by disasters are of low or medium income, and rank low on the scale of human development. Approximately 80% of disasters are in predominantly developing areas (Alexander, 1991, p. 212). When disasters strike a developing nation, a high number of human deaths result. The top 25 countries that experienced the highest numbers of people both affected

and killed by disasters between 1994-2003 were all developing nations (see appendix A).

As an example, the tsunami that hit Asia in December 2004 left close to 200,000 people

dead, and 100,000 missing (USAID, 2005, p.1). Mileti and his colleagues say that

"losses from natural disasters occur because of development that is unsustainable" (1995,

p. 122). This means that land use planning is lacking, that basic needs are not being met,

and that the environment is being degraded. Other reports reveal that underdeveloped

nations tend to focus their resources on issues apart from disaster preparedness, and only

deal with a disaster after it hits (Aleskerov *et al.*, 2005, p. 256).

     While disasters strike the developing world with alarming regularity, they also

ravage developed nations. However, developed nations are impacted by fifteen percent

of disasters, and their death toll accounts for only 1.8 percent of the total deaths (United

Nations, 2004).   The effects of disasters in developed nations are felt more strongly in

the economic sector, although the strength of their economies are better able to absorb

such high losses. During the period of 1994-2003, the countries that suffered the highest

economic loss were the United States and Japan (see appendix B). As an example, after

the attack on New York City's World Trade Center, the economic impact was felt much

beyond the destruction of the buildings. Economic damage and loss estimates range up

into the billions of dollars (Cochrane, 2004, p 293). More recently, the death toll

projections from Hurricane Katrina were initially reported in the ten thousands.

However, as recovery progressed the toll did not reach the one thousand mark. Instead,

the economic factors were more prevalent as major ports in New Orleans were shut

down, impacting the shipping and oil companies as well as the tourism industry. Total

costs are estimated at $150 to $200 billion. Thus, disasters affect all nations but in very different ways.

The Vulnerability of Nations

The distinct impact of disasters is a result of the nature and degree of vulnerability. Vulnerability is defined as a measure of proneness to disaster along with the ability to effectively withstand or react to their adverse consequences (see Watts and Bohle 1993; Comfort et. al. 1999; Wisner et. al. 2004). McEntire (2004) describes this proneness in terms of the liabilities of risk and susceptibility, and he explains that coping ability is determined by the degree of resistance and resilience. This model consequently captures both the positive and negative features associated with the physical and social environments, and includes variables such as land use planning, politics, economics, culture, psychology, engineering, and institutions. Development can also be linked both positively and negatively to vulnerability (McEntire, 2004). Researchers report that countries with middle and low human development have a higher incidence of disasters (see Appendix C), which is particularly evident in 1999. This disparity is a product of social systems being more vulnerable than others.

As indicated previously, developed nations do not reflect casualties as heavily as developing nations. Their vulnerability is lower because of their ability to acquire and employ greater resources. The wealth of developed nations allows them to allocate funds for mitigation and preparedness measures. As an example, studies are often funded in these countries to identify hazard-prone areas and recommend appropriate measures for protection. Elaborate training systems are created to prepare disaster response teams in developed nations. Everyone from first responders to community volunteers can access

training to more quickly and efficiently respond to a crisis. Furthermore, education and technology are relied upon in these countries to develop warning systems for the general public.

Australia, Sweden, and the United States are examples of developed nations that have advanced emergency management institutions. Australia's national government has an emergency management program that focuses heavily on using education to reduce vulnerability. The United States is now requiring that communities develop mitigation action plans to address rising disaster losses and it is giving special attention to WMD preparedness. SEMA, the Swedish Emergency Management Agency, takes responsibility to effectively coordinate their society's ability to respond to crises. However, mistakes are still made frequently in developed nations and they have a bearing on vulnerability. For instance, beachfront property is a luxury commodity for the wealthy and such locations are at risk due to hurricanes. People also increase their vulnerability by building their communities on fault lines or near industrial centers. Developed nations do not have perfect emergency management programs.

In comparison to developed nations, developing countries typically lack education, funding, and equipment to reduce their vulnerability. In Botswana, Africa, AIDS spreads quickly because of a lack of education about the transmission of the disease. Developing societies are vulnerable to other hazards because of their impoverished living conditions and weak warning systems. Building codes are rarely established or enforced in developing nations. For instance, squatter towns in Bhopal, India, built near the Union Carbide chemical plant, were partly responsible for the high death rate when poisonous gas leaked from the facility in 1984. Villages on the coast of

Thailand, Sri Lanka, and India were washed away during the Tsunami of 2005 because of their dangerous location and primitive construction. Nepal has institutions that focus on landslide management and floods, but they have not established a joint, integrated warning system and vulnerability is not addressed (Paudel, 2003, p. 481).

Both developed and developing nations are affected by technology, industry, and culture. Developed nations are facing increased technological disasters as computers become more integrated into every part of their lives. Developing nations, on the other hand, may lack the familiarity with new forms of technology that could reduce or cause disasters. Each group faces adverse risks associated with hazardous material incidents, even though manufacturing plants are increasingly being moved to the developing world. People and governments in both developed and developing nations continue to make mistakes regarding disasters. They each can be found guilty of downplaying risk, augmenting social susceptibility, relying too heavily on technical remedies, and failing to strengthen emergency management institutions.

Organization of Emergency Management

There are relatively few studies about official disaster organizations and activities around the world, but there are some notable exceptions. Benjamin McLuckie completed one of the earliest comparative studies of official emergency management organizations while he was a Ph.D. candidate at the Disaster Research Center. His study examined the disaster management organizations in Japan, Italy, and the United States (1970). McLuckie's research indicated that, in times of disaster, the United States maintained a more decentralized authority structure when compared with Italy or Japan. He recognized that organizational arrangement can potentially have a dramatic influence on

the effectiveness of disaster organizations because it determines the speed of response. Other studies about Russia, the United Kingdom, Australia, and New Zealand, have been conducted by Porfiriev (1999), O'Brien and Read (2005), Gabriel (2002), and Britton and Clark (2000).

During the Cold War, Russia had a strong emphasis on civil protection because of the threat of nuclear attack from the U.S. Nuclear fall-out shelters and evacuation procedures were emphasized because of the immediate crisis and threat of mutual destruction. As Cold War hostilities dissipated, Russia began to produce legislation to revamp emergency management. The Russian government realized that effective emergency management required a structured, developed system. Russia is now integrating additional mitigation and preparedness measures into their programs, thus becoming more pro-active than reactive in their strategies (Porfiriev, 1999b, p. 1).

The United Kingdom labels their emergency management program in terms of a laudable goal: the UK Resilience. In 2004, the United Kingdom passed the Civil Contingencies Act. The Act was responsible for redefining emergency management methods, including roles, responsibilities, training, and powers (O-Brien and Read, 2005). UK Resilience gives local governments the authority to handle issues at their level. However, it is still unclear to whom the local authorities should report and information does not flow smoothly between the national and local authorities. This has a potential to create confusion when disaster strikes. As such, there have been questions about the UK Resilience approach (O-Brien and Read, 2005, p. 356).

Australia, similar to the UK, has developed an emergency management program that focuses on resilience. The Australian Emergency Management Agency (EMA) does

not respond directly to emergencies. Rather, as an agency of the commonwealth, it provides resources, finances, training, and research. Australia delegates responsibility for emergency management to individual states and territories. It has only been recently that Australia has begun to focus on prevention and mitigation measures (Gabriel, 2002, p.296).

In the 1990s, New Zealand conducted a study of its emergency management structure and found significant vulnerabilities that had never been addressed. A task force was created to examine these potential problems. It recommended that the government move "more quickly and farther into areas of professional development" (Britton and Clark, 2000, p. 146). Decision makers then redefined the roles and responsibilities of the primary actors involved in emergency management, and created the Ministry for Emergency Management in 1999. The new system was based on principles that included an all-hazards approach, and involvement of volunteer agencies and the community. The local governments were issued the authority to handle emergencies, provided they had the capability (Britton and Clark, 2000, p. 147).

 Britton offers continued insight through his comparative studies of New Zealand, Japan, and the Philippines. In comparison to New Zealand, Japan's overall approach to emergency management is "centralized/directive, fragmented, and reactive" (Britton, forthcoming, p. 10). The Disaster Countermeasures Basic Act of 1959 defines the disaster management policies for each level of government, and this act has been revised in subsequent years (Britton, forthcoming, p. 11). However, after the Kobe earthquake, "rivalry, competition and failure to use designated focal agencies" was evidence that further measures still needed to be taken to strengthen the emergency response plan

(Britton, forthcoming, p. 14). As a result, the 1998 Comprehensive National

Development Act identifies methods such as improved construction codes and projects,

research, and warning systems that will aid in making Japan a safer and more resilient

nation (Britton, forthcoming, p. 12).

The Philippines also has a centralized approach to national emergency

management. Their system, while more hierarchical than Japan and the U.S., is also

fragmented and reactive. President Quezon developed their system after World War II.

The National Disaster Coordinating Council does not have its own budget; rather, it

operates through various other agencies (Britton, forthcoming, p. 21). While disaster

management is typically handled by the central government, the powers to focus on the

area of risk reduction are limited. The system lacks a comprehensive, organized,

proactive, and participatory structure. The Philippines has been criticized by the World

Bank for its ad-hoc approach to disasters (Britton, forthcoming, p. 23).

There are other examples of comparative research. For instance, Newton

conducted a study of the United States and Canada. Although located on the same

continent, the vastness of both countries affects the natural hazards they each face.

Canada, in general, experiences less natural hazards than the U.S. However, their

northern location has caused them to be more adaptive to severe weather (Newton, 1997,

p. 225). The Canadian emergency management program assigns responsibility to local,

provincial, and territorial governments. The emergency management program chooses to

focus on preparation initiatives rather than mitigation directly (Newton, 1997, p. 226).

The national government sets standards, provides leadership, and attempts to oversee the

development of the overall ability to respond to a disaster. In contrast, the Federal

Emergency Management Agency of the United States created a Mitigation Directorate in 1993. Consequently, the U.S. has seen a reduction in fatalities and property loses generally attributed to its mitigation programs (Newton, 1997, p. 228). Nevertheless, an argument can be made that the focus on mitigation has waned in recent years due to the threat of terrorism.

These studies reveal that the actors, organization, and activities associated with disaster planning and management will vary according to country. Hazards, culture, history, political objectives, and current events influence emergency management organizations around the world. Unfortunately, comparative studies of emergency management institutions have been limited.

Human Behavior

Cross-national and international studies on emergence provide insight on disaster response in various locations. Studies have been conducted in Mexico, Russia, Japan, and the United States. For instance, after the gasoline explosion in Guadalajara, Mexico, emergent behavior was similar to patterns displayed in the United States. Aguirre *et. al* (1995) study of that particular disaster underscores the importance of pre-existing social organization. Those that responded and began search and rescue efforts were generally immediate relatives and close friends of victims. Scawthorn and Wenger (1990, p. 3) found that the first people to respond in the U.S. and Mexico were part of extending or emergent groups. However, there are also differences that can be noted between the two countries.

In Mexico City's 1985 earthquake, the percentage of people who volunteered their efforts was much smaller than in the U.S. Only 9.8 percent volunteered their

services, though in real numbers this accounts for 2 million people (Quarantelli, 1989, p. 2; see also Vigo and Wenger, 1994, p. 239; Wenger and James, 1990, p. 6; Scawthorn and Wenger, 1990, p. 4). The emergent groups in Mexico typically converged from outside of the impacted area. They were generally larger groups and tightly knit socially (Vigo and Wenger, 1994, p. 240; Wenger, 1992, p. 5). Quarantelli (1989, p. 6) likewise found that families played a greater role in sheltering efforts in Mexico than in the U.S.

Behavior in Russia and the United States has also been compared. In Russia, as in the U.S., emergent groups are the first to begin search and rescue efforts (Porfiriev, 1996, p. 223). However, Porfieriev (1996) notes that the organization in Russia is more centralized than those in the U.S. The U.S. government has a fairly decentralized approach, but Porfiriev (1996, p. 96) says his "government provided practically all financial, material and a considerable part of the human resources needed to cope" after an earthquake in the late 1990s. Looting was also reported after this earthquake, a finding that contradicts previous findings in the U.S. (Porfiriev, 1996, p. 223).

Similarities and differences between Japan and the U.S. have also been examined. Both nations exhibit cooperative emergent phenomena after a disaster. The Japanese Mafia (yamaguchigumi) even collaborated with their government after a disaster (Comfort, 1996). It has been noted, however, that emergent behavior is more likely to happen in the United States than in Japan (Drabek, 1987, p. 278).

A final comparative study is between Italy and the U.S. Each nation suffered a major flood: the U.S. in 1993 and Italy in 1994. Both nations were quick to respond to the disaster. Survey results showed that while the Americans affected were knowledgeable and prepared to recover, the Italians were relatively unprepared to cope

(Marincioni, 2001, p.217). In both countries, emergent phenomenon was observed at the community level (Marincioni, 2001, p. 219). Permanent volunteer organizations were particularly useful in both countries. The established social associations were remarkable in identifying and meeting the needs of the affected populations (Marincioni, 2001, p. 219). The examples indicate both similarities and differences in terms of human behavior in disaster, and illustrate the need for further cross-national studies of emergent behavior.

Additional Case Studies and Comparative Research

Much, if not most, of the research on disasters uses a case study methodology. Case studies provide valuable information about particular disaster situations. Researchers have examined many cases in the United States. Robert Bolin's (1990) book about the Loma Prieta earthquake is an excellent example. Part one of the book covers the economic and social costs attributed to the quake, as well as information about how it compares to previous earthquakes. Part two looks at organizational behavior, psychological impacts, gender roles, and concludes with a look at shelter and housing issues. The book therefore provides a detailed discussion about emergency management issues after Loma Prieta.

Walter Peacock, Betty Hearn Morrow, and Hugh Gladwin edited the book *Hurricane Andrew: Ethnicity, Gender, and the Sociology of Disaster* (1997). The socio-political ecology of Miami before the storm, warning and evacuation procedures, and crisis decision-making are each examined. In addition, sociological response of gendered groups, ethnic and racial inequalities, and a variety of familial responses are also documented. It is a must have for those interested in the topic of social vulnerability.

Beyond September 11th is a third book that can be mentioned. Its contributors examined issues in relation to the engineered environment as it pertains to buildings and infrastructure, individual and collective behavior, the roles of private sector groups, and finally the public policy and political contexts of the disaster. It is a very comprehensive and multi-disciplinary assessment of the 9-11 terrorist attacks.

There are other case studies written about particular functions within a disaster. Benigno Aguirre (1988) discusses the lack of warnings before a tornado in Saragosa, Texas. He relates effectiveness to the existence of a common shared culture, and emphasizes the importance of adapting warning systems to multicultural social contexts. Henry Fischer and his colleagues (1995) focus their research on evacuations. They outline various ways of increasing the likelihood of people heeding an evacuation warning.

Organizations have also been the subject of case studies. John Broullette (1970) discussed how adaptation to disaster demands is best accomplished by organizations that have material and personnel resources maintained and ready to utilize. Will Kennedy (1970) studied the organization and tasks of police departments in times of disaster. E.L. Quarantelli (1970) focused his research on community hospitals and the problems they must address in dealing with disaster scenarios. Martin Smith (1978) examined the response of various religious organizations after a tornado in Ohio.

Researchers have conducted case studies regarding management issues. Brenda Phillips (1993) looks at the impact of gender and diversity in relation to disaster response operations. James Kendra and Trisha Wachtendorf (2003) focus their case study on elements of resilience present in New York City's emergency operations center after the

attacks of 9-11 and note that creativity is extremely beneficial. Robert Bolin and Lois

Stanford (1998) examine community response to unmet needs after the Northridge

earthquake response. Richard Olson, Robert Olson, and Vincent Garanski (1998) use

their case study of the Loma Prieta earthquake to stress that the recovery period offers the

greatest opportunity for mitigation. Swaroop Reddy's (2000) article examined Hurricane

Hugo and addresses factors that foster mitigation measures during disaster recovery.

Case study research has also focused on disasters outside of the United States.

Stuart Batho, Gwyndaf Williams, and Lynne Russell (1999) looked at the terrorist

bombing of the Manchester City Centre in Manchester, England. Their study uncovered

the emergency responders' ability to deal with the crisis immediately and then transition

through the recovery process.

Boris Porfiriev (1996) focused his case study on organizational response to the

Sakhalin earthquake. The paper covers social consequences of organizational response

based on one of the worst earthquakes in Russia's history. Poor response or, in some

cases, the inability to respond on behalf of Russian emergency personnel, resulted in a

lack of communication about the earthquakes magnitude and destructive toll. This

impeded search and rescue and evacuation efforts, and exacerbated the chaos of the

disaster. Francis Terry (2001) looks at the rail disaster in South London, and suggests the

importance of exemplary safety standards in such an industry. Pan Suk Kim and Jae Eun

Lee (2001) examine emergency management framework in South Korea. Traditionally,

emergency management in this country has focused on natural disasters. The authors

point out that it is necessary for the Korean Government to also focus on mitigation and

response for man-made disasters. During the same year, Habib Zafarullah, Mohammad

Habibur Rahman, and Mohammad Mohabbat Khan (2001) studied the disaster management strategies in Bangladesh. These scholars provide an overview of Bangladeshi disaster management as it stands today, and also assess areas of weakness and constraint that should be addressed.

Other case studies indicate the need for a holistic approach to emergency management. McEntire (2003) looks at how social and physical environmental interaction can lead to disasters. He based his work on Hurricane Georges impact on the Dominican Republic. McEntire and Christopher Fuller (2002) further examine the need for a holistic theoretical viewpoint by studying Peru's El Niño disasters. Alpaslan Özerdem and Sultan Barakat (2000) emphasize a similar theme in their investigation of the 1999 Marmara earthquake in Turkey.

Comparative studies have also been utilized to provide valuable information on emergency management practices. Joseph Scanlon (1994) compares the roles emergency operations centers in Canada and the United States. Tricia Wachtendorf (2000) used comparison to study the response of Canada and the United States to the flooding of the Red River in 1997. John Harrald and Hugh Stephens (2001) examined the maritime transportation disaster caused by the explosion of two ships carrying fertilizer in Texas City with the Exxon Valdez oil spill in Price William Sound, Alaska. Frances Winslow (2001) analyzes the lessons that can be drawn from the accidents at Chernobyl and Three Mile Island. Alice Fothergill, Enrique Maestas, and JoAnne DeRouen Darlington studied vulnerable groups across disasters in the United States. They also compare disaster response and its variation based on factors of ethnicity and race. Dennis Mileti and Eve Passerini (1996) explore three relocation decisions employed after earthquakes. Robert

Bolin and Patricia Bolton study the recovery of families in Managua, Nicaragua versus the Rapid City, South Dakota. Richard Olson and A. Cooper Drury (1997) use a cross-national analysis to compare political unrest that occurs throughout societies after various disasters. Olson also teamed up with Vincent Gawronski (2003) to contrast the 1972 earthquake in Nicaragua with the 1985 earthquake in Mexico City. They find that the Nicaraguan earthquake forced the government to shift its focus and goals, while, surprisingly, the Mexico City earthquake had no such effect on its government. Tim Ziaukas (2001) investigates the public relations aspects of disaster response between the Bhopal chemical release with the Exxon Valdez oil spill. Ronald Perry and Hirotada Hirose (1991) look at volcano management in Japan contrasted with the administration activities in the United States. Comparison has therefore been utilized as a methodology in disaster and emergency management research in the US and around the world.

Discussion and Conclusion

It should be readily apparent from this chapter that disaster studies may gain much from the discipline of comparative politics. Its subjects (e.g., political culture, socioeconomic status, interest groups, institutions, public policy, decision making and development) have recently been investigated by disaster researchers and many fruitful avenues of research are being opened as a result. In addition, the method of comparison allows us to comprehend the unique mix of hazards that face countries around the world. It is also useful to understand the impact of disasters on developed and developing nations, as well as alternate explanations for their varying degrees of vulnerability. Comparison likewise elucidates common and divergent behavioral patterns in disasters, and enables a better understanding of emergency management institutions internationally.

The comparative method has certainly been used by disaster scholars, with increasing frequency over time. Nevertheless, we do have to be extremely careful to assume that concepts, issues and variables are equivalent across cultures and systems (Peacock 1997, 125).

There are also many opportunities to advance our knowledge about disasters and emergency management activities by fully engaging the comparative method. For instance, we need to learn more about the similarities and differences of complex emergencies, terrorist attacks and other types of disasters. Research is needed on varying levels of vulnerability in the developed and developing worlds, and what we should do about the disturbing trends that are confronting us. Furthermore, there is a great deal of research on disasters in the United States and select other countries (Dynes, 1988). Much less is known about emergency management institutions in Asia, Africa and Latin America. While several important case studies on disasters have been conducted, we lack systematic information about these issues and events in other nations around the world. More research will need to follow the excellent comparative work presented in this chapter.

The major finding of this chapter, therefore, is that researchers must fully recognize the value of comparison and do more to apply this method in their future studies. Effectively utilizing the comparative method will undoubtedly enable us to better comprehend the deadly, destructive and disruptive events we call disasters. Comparison will also improve the practice of emergency management as it permits us to learn from the mistakes and success of others.
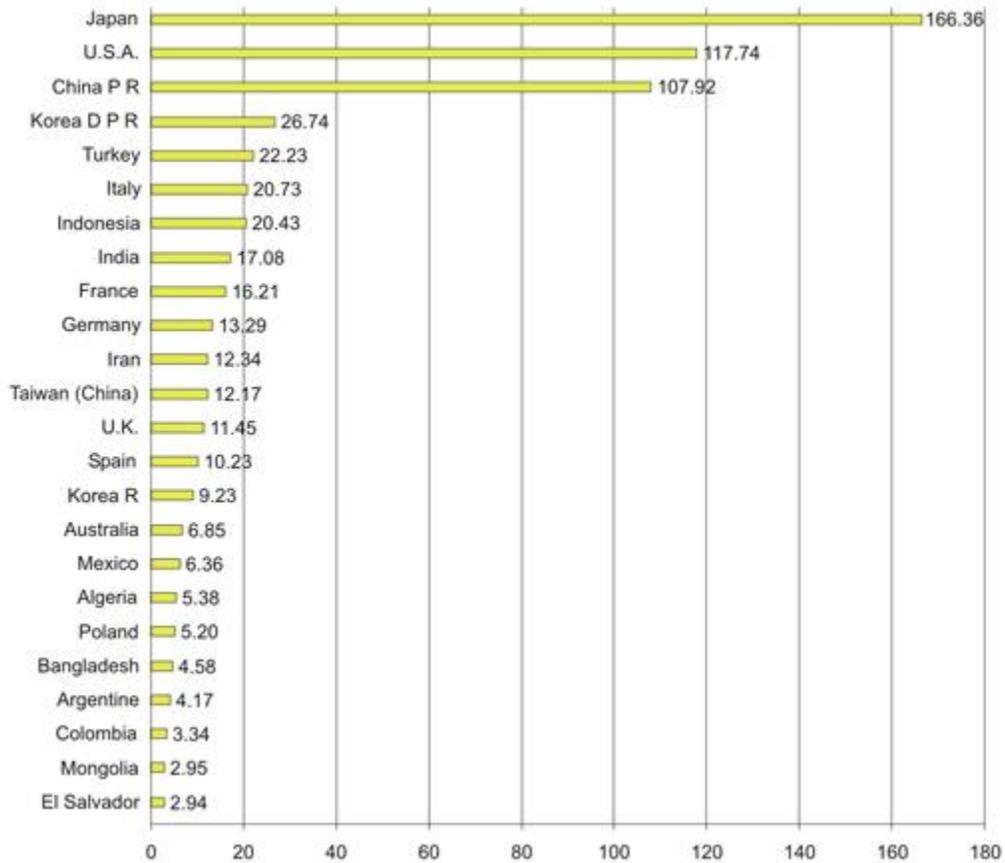
**Top 25 countries in absolute and relative values of people killed and affected 1994 -
2003**
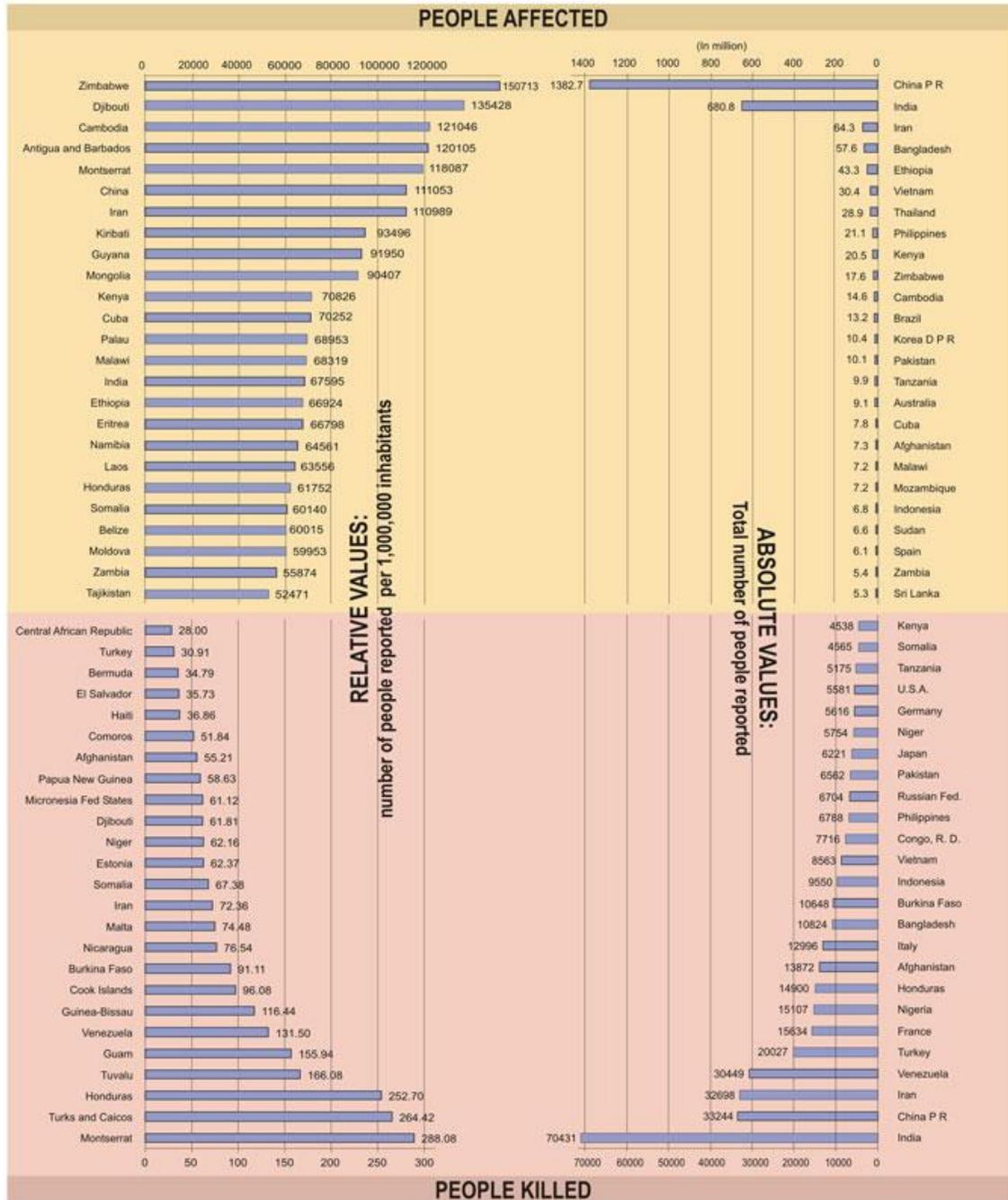
Source of data: EM-DAT : The OFDA/CRED International Disaster Database.
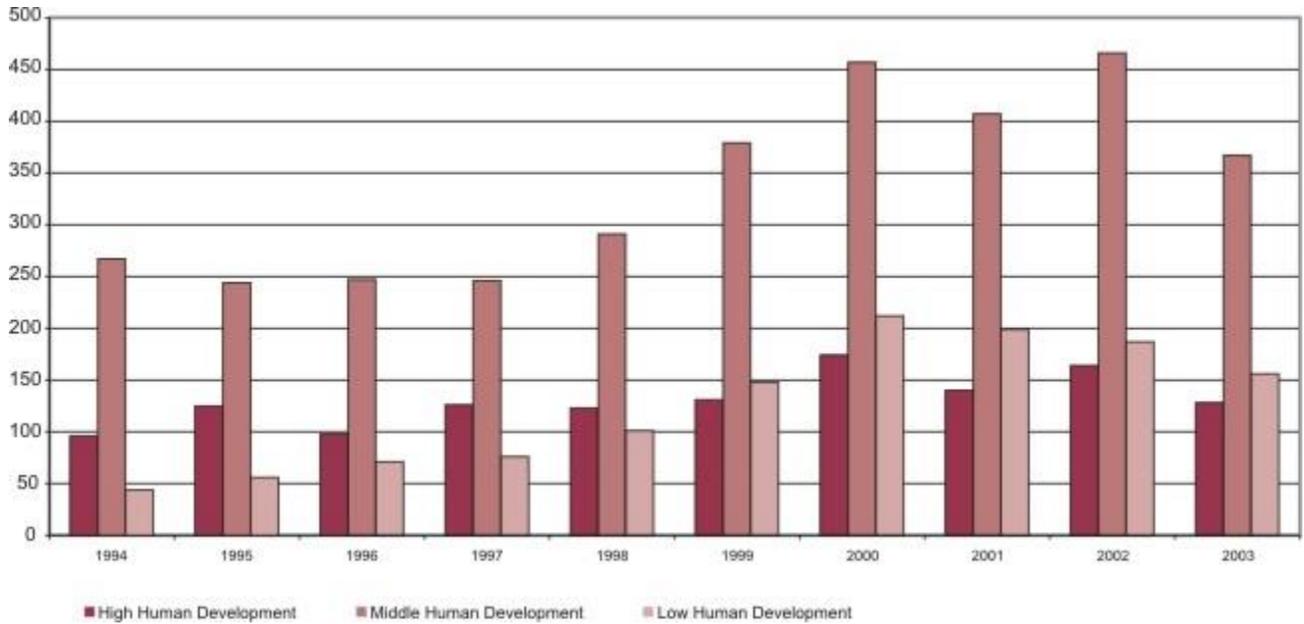http://www.em-dat.net, UCL - Brussels, Belgium

**Total amount of economic damages reported : all disasters
1994 - 2003 (2003 US $ billion)**

Source of data: EM-DAT : The OFDA/CRED International Disaster Database.
http://www.em-dat.net, UCL - Brussels, Belgium

Total number of disasters by year 1994-2003
(according to human development aggregates)

Source of data: EM-DAT : The OFDA/CRED International Disaster Database.
http://www.em-dat.net, UCL - Brussels, Belgium

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