

Disaster Risk Management

Case Studies in South Asian Countries

Edited by

Huong Ha

School of Business

Singapore University of Social Sciences

Singapore

R. Lalitha S. Fernando

Department of Public Administration

University of Sri Jayewardenepura

Nugegoda, Sri Lanka

Sanjeev Kumar Mahajan

Himachal Pradesh University

Shimla (India)



BUSINESS EXPERT PRESS

Foreword

The Challenges of Disaster Risk Management¹

Arnold M. Howitt

Harvard University and Tsinghua University

The chapters in this volume bring into sharp relief the ongoing challenges of preparing South Asia for the multiple disasters—typhoons, earthquakes, tsunamis, landslides, floods, droughts, and more—that threaten lives, livelihoods, property, community life, culture, and the environment. That focus is vitally needed. We live in an era in which, on the one hand, significant progress has been made in concentrating the attention of local, national, and international actors preparing for and managing the risks of disaster. On the other hand, disasters have increased in frequency and intensified because of changing patterns of human activity, social structure, and the environment.

Confronting those challenges, the world community has focused on a new paradigm reflected in the Hyogo framework and revised and extended in the Sendai framework. As developed, the idea of disaster risk *management* includes more than the reduction of disaster risk. It implies a comprehensive framework of risk management at three different stages of the disaster cycle—preparing before a disaster occurs, responding during an event, and recovering following the disaster, with feedback to the next stage of preparedness. The overall objective is *resilience*—resilient

© 2019 by the President and Fellows of Harvard College. Printed with permission.

¹The author gratefully acknowledges Douglas Ahlers, Joseph Pfeifer, and David Giles for thoughtful comments on earlier drafts. Notwithstanding their advice, all remaining errors of commission or omission are strictly the responsibility of the author.

individuals, communities, and a society capable of adapting to the perhaps radically changed conditions following a major disaster shock.

Disaster Vulnerabilities

One essential element of disaster management is the careful analysis of societal vulnerabilities, whether widely distributed among the population, falling on particular subgroups in society, or localized in specific places. Who are the vulnerable? Where and how are they vulnerable? Understanding the sources of vulnerability and the people most likely to be exposed to risk is an important step in either averting disaster or mitigating the impact of a crisis event.

As the authors in this volume point out, social inequality significantly increases risk and vulnerability. The poor are far more susceptible to disaster because of danger inherent in their surroundings, the character of the physical structures in which they live and work, the weak capacity or neglect of the institutions that serve them, and their own lack of knowledge of ways to protect themselves. Gender and age differences intensify these vulnerabilities to disasters. Women, the elderly, and children frequently claim fewer resources in their families than the men, have fewer links to informal community networks, have less physical mobility, possess less knowledge of risk reduction and coping possibilities, and face greater danger of harassment or molestation in disaster shelters. The elderly are less able to manage reconstruction of damaged homes and are more susceptible to fraud by contractors. Minority status often increases vulnerability further. Prejudice against minorities deepens the impacts of poverty, gender, and age—and outright discrimination in the distribution of relief services and access to food, water, shelter, health care, and education may spike during disaster response and in a prolonged recovery period.

Separate from but intertwined with the effects of social inequality are locational impacts. Urbanization, migration, population increases, and physical development practices result in large numbers of people settling in dangerous places. Rapid expansion of cities has increased settlement in flood plains or areas vulnerable to earthquakes and landslides and in construction of housing that lacks protections from rising waters or seismic events. Isolated communities may face similar dangers, with the

added problem of being at great distance from and perhaps inaccessible to potential sources of disaster aid.

As climate change progresses, the authors of this volume show, locational vulnerability will increase. Rising sea levels, augmented by the intensification of meteorological events such as typhoons and intense rainstorms, will increase flood and wind dangers in cities and other settlements or create them in areas that have never faced them before. Climate change will also create slow-moving, chronic disasters, including threats to water supply and agricultural production. Saltwater intrusion will contaminate arable land; rising temperatures will cause more frequent drought, damaging the conditions for growing crops for human and animal food supply and other economic purposes. Rising temperatures will also cause human health problems: heat exhaustion, dehydration, respiratory and cardiovascular diseases, and increases in vector-borne illness.

Social Structure and Institutions

Vulnerability, as an author in this volume notes, is not only the result of risk at a particular location but also the result of the level of societal capacity to respond to disaster at that location. Holding risk constant, vulnerability increases when society lacks the capacity to counter the effects of disaster. Therefore, institutions and social structures that can reduce disaster risks—through effective preparedness, response, or recovery—matter significantly in diminishing vulnerability.

Consistent with a major thrust of the Hyogo and Sendai frameworks, the authors of this volume, seeing a major opportunity, emphasize the development and enhancement of local capacities for disaster risk management. That focus is essential to redress the imbalance that Hyogo and Sendai highlighted: dependence on the role of national and provincial governments or the international community. In the past, because those institutions had low confidence in or distrusted local capacity to handle disasters, they frequently took too few steps to encourage or develop it. Trust will come with demonstrated local capacity and competence, but those capabilities have to be not only built by the localities themselves but also nurtured by higher level governments and national and international NGOs willing to invest time, resources, and technical assistance to build capacity.

Greater emphasis on local capacity building promises important benefits in enhancing disaster risk management. The ability to identify—and then eliminate or mitigate—risks begins with local people who are physically closest to the sources of vulnerability, have knowledge of local context that outsiders often lack, and are likely highly motivated to act against risks that threaten their families, homes, communities, and livelihoods.

Not surprisingly, *individuals and families* form the first line of preparedness. Helping them change their mindset from potential victims to proactive protectors of their families' lives and property is a critical step toward self-reliance. If educated about risk reduction, motivated, and mobilized, they can take important steps to ready themselves and those close to them for potential disaster events. As an author in this volume emphasizes, women are a potentially crucial—but previously underutilized—resource in disaster risk reduction and preparedness. Moreover, individuals and family members are frequently the true “first responders” in the event of actual crisis—for example, rescuing themselves and their loved ones from flood or landslide. That ability may be critical. If disaster occurs, help may take considerable time to arrive.

Beyond the family, *civil society* is crucial to societal resilience; it can be a major player in risk reduction and frequently plays major roles both in disaster response and during the extended period of recovery. Where social capital is bountiful, bottom up participation is a powerful way of reducing and managing disaster risks. To the extent that local communities have formal or informal groupings based on family ties, religion, neighborhood, political loyalties, avocations, work, or other forms of social capital, they have associational resources that potentially can mobilize—wholly or in part—for disaster preparedness, response, and recovery.

Local government institutions are also critical resources for grassroots risk reduction. All but the smallest communities have locally based capacity—for example, police officers and volunteer firefighters—that can serve well to meet serious emergencies. Local governments can also support civil society in mobilizing and creating social networks for risk reduction and disaster management. They also can develop operational capacity for mitigation, preparedness, and response and secure financial and technical support from external sources. However, local government can be a roadblock to disaster risk management if it does *not* make preparedness

a sufficient priority; develop internal capacity for responding to extreme events, not just routine ones; reach out and network with civil society groups; and establish operational linkages with disaster resources at higher levels of government and in nonlocal civil society organizations.

As important as local mobilization is in disaster risk management, local society and institutions have insufficient capacity for dealing with the threat or actuality of very large disaster events. Mitigating or preparing to combat such events often requires financial, personnel, and technical resources well beyond the capacities of localities. One form of help involves expertise, training, and technology. For example, communities can be taught to build seismically resistant structures that can reduce casualties from earthquakes; technology can produce early warnings and convey information during disasters.

Because the impacts of actual large-scale events spill across the boundaries of local jurisdictions, they require coordinated external response in addition to local action; the severity of such events often necessitates surging people and equipment to the scene from nearby or even distant locations. National governments must supply emergency responders, equipment, and relief supplies when major disasters disable or swell beyond the capacity of local or provincial institutions to cope with the consequences. National governments may also need to serve as intermediaries between local people and institutions, on the one hand, and international humanitarian responders, on the other.

Effective integration of outside resources with local capacity is thus a major challenge of preparing for and responding to large-scale emergencies. Ideally, if disaster occurs, outside responders with superior resources will be able to couple together with local responders who can exploit their superior contextual knowledge. But when a disaster largely or totally disables local capacity, making successful integration infeasible, the effectiveness of outside response is likely to be diminished.

Nonetheless, that outside capacity from higher levels of government and national and international NGOs is crucial for adequate response even if local capacity has been disabled. Although it may prove harder for external aid givers to operate without guidance and support from local institutions, help for injured, grieving, or displaced residents is essential in a large-scale event.

In preparing for sweeping disasters, the pre-disaster creation and sustainment of linkages between levels of government is essential, as is the development of common operational frameworks that allow for coordinated action. Those frameworks are largely lacking in many places. National governments therefore should work to create such systems of coordination, disseminate them widely, and ensure that they are regularly practiced so as to increase the likelihood that effective coordination of responders from diverse locations will prove feasible in a major disaster.

Building capacity for disaster risk management, however, is politically problematic even in relatively wealthy countries and particularly challenging in developing countries like those in South Asia. These nations face extremely difficult choices in allocating scarce public resources. There is immediate and compelling need for funding education, health care, housing, economic development, among others. Disaster events, by contrast, may never occur in a particular place or in a period salient to current officials. Decision makers may thus see disaster risk reduction and preparedness as luxuries by comparison with other social investments. There are no easy answers to these hard choices. On the one hand, other needs are obvious and pressing; on the other, disasters can devastate a community or region, negating hard-won improvements and setting development back by a decade or more. The politics and economics of dealing with low-probability but very high-consequence events like natural disasters or other crises are very difficult. As Hyogo and Sendai dramatize, however, the balance must shift more in the direction of risk reduction and management.

Building Resilience

The Sendai framework captures a growing awareness among both practitioners and scholars of disaster management that our goal must be creating communities and societies that are resilient in the face of disaster. Resilience has been variously defined, but the essence of the concept is the capacity of an individual, organization, or community to adapt effectively to significant changes in its environment. Although adaptation may entail the restoration of conditions to their pre-disturbance state, it more frequently entails sustainable adjustment to a new reality.

Severe disasters demand extraordinary resilience. As my colleague Herman B. “Dutch” Leonard and I have argued elsewhere (Leonard and Howitt 2010) building resilience for such events requires a comprehensive framework for risk management. That framework highlights five elements occurring during three time frames—before, during, and after a disaster. Resilience results from effective action in each element and time frame.

In advance of a disaster: *Prevention and mitigation* efforts identify and target risks, seeking either to avert them by actions to reduce the probability that they will occur or to minimize the magnitude of damage they might otherwise cause if they do occur. As an author in this volume relates, systematic analysis of risks, drawing on disaster management and climate change science, is crucial. For example, physical vulnerabilities can be identified and removed or housing and other structures reinforced; steps to reduce the life-safety dangers of flooding can also be undertaken. Individuals and families can be empowered through education about how to protect themselves from likely dangers. One author points to the careful attention given to disaster risk management in antipoverty programming in Bangladesh.

In the same pre-disaster time frame, *response capacity* can be strengthened or put in place locally. Police and firefighters, for example, can be readied to perform disaster response work more effectively. In addition, together with local authorities, civil society organizations and whole communities can prepare for likely disaster events. Where available, they can take advantage of technical assistance and resource support from higher levels of government or national or international civil society organizations to enhance their readiness. Organizing and training volunteers for action if disaster strikes can provide critical response resources if aid from outside is delayed.

A final form of pre-disaster preparedness is *advance recovery*. That idea may seem counterintuitive. How can a society plan for recovery *before* it knows where, when, and how a disaster has occurred? However, especially for areas where specific kinds of disasters are extremely likely, government should be motivated to take steps that could make the inevitable recovery process faster, less expensive, or more complete than it would be in the

absence of such preparation. While advance recovery planning could be undertaken by localities, it is more likely to occur at higher levels of government. Serious forethought can be given to what new institutions would be required for major recovery efforts, how recovery could be financed, how aid from international sources could be channeled and overseen, and how local authorities and civil society could be empowered for the multiple tasks of recovery. Advance recovery planning cannot precisely anticipate what will be needed in the aftermath of disaster. But thinking through the issues, provisionally planning for necessary resources, and putting recovery on the political agenda before a disaster actually occurs, can equip communities and countries for the massive tasks of recovery far better than would be the case if none of that planning had been done ahead of time.

During a disaster: The second time frame of risk management involves actual response during and immediately after a disaster. As the Sendai framework holds and the authors in this volume emphasize, improvement requires increased localization and attention to the most vulnerable groups in society; it entails strengthening the disaster response capacities of individuals, families, local government, and local civil society. As important as this is, though, large-scale disasters require more than local action—thus the importance of continuing to build response capacity of higher levels of government and national and international aid givers. As discussed above, moreover, improving the ability of external aid givers to couple effectively with local ones is also a significant objective.

After a disaster: Recovery after a serious disaster is an arduous process—a crucial test of societal resilience. Coping with physical destruction may be the most obvious need: clearing rubble; providing shelter and replacing housing; restoring infrastructure like roads, power lines, and water systems; and resuming basic services like garbage collection, health care, policing, and education. These tasks potentially consume substantial resources, whether provided by private individuals' savings and sweat equity or undertaken or subsidized by government or civil society organizations, but rarely are the funds and other resources available sufficient to enable

speedy or full recovery. In South Asia, the balance between private and public recovery resources is usually tilted heavily toward the private, thus exacerbating the multiple social inequalities that often created disaster vulnerability in the first place.

Another critical recovery need is, as one author argues in this volume, ministering effectively to less visible but perhaps even more difficult psychological traumas, including grieving after loss of loved ones, friends, home, livelihood, or familiar life; recurring terror at what was experienced or heard about; and survivors' guilt. Frequently overlooked, responders as well as survivors may experience severe posttrauma stress.

External aid from international organizations or NGOs typically comes with strings attached—conditions on how it should be applied, managed, and accounted for—which may create perceived challenges to national sovereignty or violations of cultural norms.

Institutional innovation is often required to cope with the increased and unfamiliar demands that recovery imposes on government. Major disasters frequently lead to the establishment of new agencies (or to significant changes in existing ones) to consolidate the authority, expertise, and resources necessary to undertake the varied tasks of recovery. These include raising funds from government or external aid providers, mediating community disputes about how recovery should be conducted, overseeing or contracting for major public works projects, and managing the provision of subsidies or support to individual survivors. Recovery agencies must also manage complex accountability relationships with survivors, diverse local and external stakeholders, government agencies at different levels with overlapping responsibilities, and the international agencies and NGOs that may provide disaster aid.

Taken together, effective action against disaster in the three periods outlined above can be thought of as leverage points for enhancing societal resilience. Disaster risk management, at its heart, requires a continuous process to identify and mitigate risks, prepare to respond to the inevitable disasters that occur, and ready individuals, communities, and agencies for the tasks of recovery and reconstruction. If priorities are established and if these steps of preparedness are taken, then response to and recovery from actual disasters will be far better—and society more resilient.

Conclusion

The chapters in this volume depict many of the rich problems and challenges of creating disaster resilient communities and countries in South Asia. As the authors note, most of these countries are far better positioned to handle such disasters than they were a generation ago, but, as the authors here also demonstrate, there is still much improvement possible—and looming challenges from demographic and climate change, urbanization, migration, and social inequalities. Research like that in this volume can alert the public and policy makers to the need for better disaster risk management, help set the agenda, and generate productive debate. We need that debate—and action—going forward.

Reference

“Dutch” Leonard, H.B., and A.M. Howitt. 2010. “Acting in Time Against Disasters: A Comprehensive Risk Management Framework,” In *Learning from Catastrophes: Strategies of Reaction and Response*, eds. H. Kunreuther and M. Useem, 18–40. Upper Saddle River, NJ: Wharton School Publishing/Pearson Education.

Author’s Biography

Arnold M. Howitt is a faculty codirector of the Program on Crisis Leadership, as well as senior adviser of the Ash Center for Democratic Governance and Innovation, at the John F. Kennedy School of Government (HKS), Harvard University, Cambridge, MA, USA. During the 2018–19 academic year, he serves as the Johnson and Johnson Chair Professor of Leadership at Schwarzman College, Tsinghua University, Beijing, China.

Among other writings, Dr. Howitt is the coauthor/editor of *Public Health Preparedness* (2017), *Natural Disaster Management in the Asia-Pacific: Policy and Governance* (2015), *Managing Crises: Responding to Large-Scale Emergencies* (2009), *Countering Terrorism: Dimensions of Preparedness* (2003), *Perspectives on Management Capacity Building* (1986), and *Managing Federalism: Studies in Intergovernmental Relations* (1984).

Dr. Howitt earned his BA from Columbia University and his MA and PhD in political science from Harvard University.