

Balancing international approaches to disaster: rethinking prevention instead of relief

by David A. McEntire, Graduate School of International Studies, University of Denver

Introduction

That there has been a change of focus in disaster research and its application hardly needs reiteration. In the last two decades scholars and practitioners have increasingly shifted interest from the provision of relief to an emphasis on prevention. Mitigation and development are the rallying calls of the day.

While no one can doubt the value that these strategies have on reducing the devastating impacts of catastrophe, there is reason to believe that the current movement—at least at it relates to the developing world—has gone, or may be going, too far. My opinion on the matter is that we are ignoring some of the drawbacks and challenges of solely implementing the prevention route in Third World countries. What I am suggesting, then, is a more balanced international approach to natural and man-made calamities—one that recognises the necessity for both prevention and relief. In order to facilitate my discussion I will examine where we as a disaster interested community have been, where we are now, and where we should be headed in the future.

Where have we been?

Practitioners and scholars have traditionally focused their attention on the response phase of disasters. On the one hand, providers of humanitarian aid have always felt a moral obligation to care for needy victims in calamity-stricken areas. Governments, international governmental organisations, and private voluntary agencies have also sought ways to facilitate the coordination of their relief efforts. On the other hand, students of disasters and policy analysts have critically evaluated relief operations. Their goal has been to offer suggestions as to how the distribution of aid can be more effective and efficient.

Practitioners and disaster relief

One of the first recorded instances of international humanitarianism took place after an earthquake devastated Lisbon in 1755 (Macalister-Smith,

1985). After being notified about this calamity King George II of England requested that Parliament quickly send sufficient and suitable relief to meet the needs of victims in such an emergency. Three years later, Emmerich de Vattel declared in *The Law of Nations* (published 1916) that all governments with an abundance of provisions should come to the assistance of those countries which have been smitten by disaster. He asserted further that no civilised nation could fail to respond in such an extremity. In living up to Vattel's assertion about international responsibility, many governments have established relief agencies—particularly during the latter half of the present century—with the task of providing unilateral aid to victims of calamities in other countries. The United States Office of Foreign Disaster Assistance (a branch of the Agency for International Development in the State Department) is only one example of this type of organisation which could be mentioned. Counterparts are manifest in Australia, Canada and England, as well as in other developed countries throughout the world.

In addition to individual nation-states, international governmental organisations have also been concerned with assisting nations that are affected by disaster. The first multi-lateral relief institution, the International Relief Union (IRU), was founded in Italy in 1921 and was later integrated into the politically-established League of Nations. According to the Preamble of the Convention for Establishing the International Relief Union, the member states of the organisation were to 'render aid to each other in disasters, to encourage international relief by a methodical co-ordination of available resources, and to further the progress of international law in this field'. Although the IRU was ultimately unsuccessful at ensuring mutual support in the event of disaster (due to the inherent weaknesses of the League of Nations and lack of political will by the United States), it has

been suggested that the IRU did make symbolic strides in helping governments recognise the 'need for collaboration in matters of humanitarian assistance through international organisation' (Macalister-Smith 1985, p. 21).

Upon the breakup of the League of Nations and the founding of the United Nations in 1945 there was no immediate attempt to create a new international disaster relief organisation. With the passing of time, however, political leaders again began to see the urgency for expanded and enhanced efforts in international disaster response. Besides the constant demand for assistance by those nations affected by catastrophic events, a major reason for this shift in thinking was due to the burgeoning appearance of other international actors involved in delivering humanitarian aid. Some of these new players included the World Food Program, World Health Organisation and the Pan-American Health Organisation that emanated from the United Nations itself. But the vast majority of these new actors were voluntary humanitarian agencies (VOL-AGS) or private voluntary organisations (PVOS) who also felt a similar sense of duty to supply relief to disaster victims in foreign territories.

The International Red Cross, considered to be the most renowned of the humanitarian agencies, is an excellent example of the case in point. Macalister-Smith reiterates the fact that the 'resolutions of the first Geneva International Conference of 1863 demonstrate clearly that the founders of ... [this organisation] envisaged a ... development of peacetime relief activities' (1985, p. 17). Henry Dunant himself advocated that the victims of physical calamities were equally deserving of aid as those of man-made disasters such as war. This belief subsequently led to the first large scale international disaster relief operation conducted by the Red Cross as the 19th century came to a close.

Besides the Red Cross, other VOL-AGS representing a wide array of

religious-ideological, interest and professional groups became involved in humanitarian service at the international level. A few of these PVOS include the Salvation Army, Oxfam, Catholic Relief Services, CARE, Church World Services, World Vision, and Medecins Sans Frontieres. The growth of such participants was particularly evident as World War II came to a close.

Aware of these more numerous and diverse actors that were providing relief to victims of disasters, governments became concerned with how to properly manage and perhaps incorporate PVOS into their relief activities. For this reason the United Nations Disaster Relief Organisation (UNDRO) was created in 1971 (Kent, 1987, p. 54). Resolution 2816 specified that UNDRO was to mobilise and direct the relief operations within the United Nations system and among relevant VOLAGS. Most assessments of UNDRO reveal that it was never able to live up to this expectation (Borton, 1993, p. 196). But the advent of this international organisation underscored once more the importance that relief had in the hearts of practitioners.

Scholars and disaster relief

Beyond those who served in a humanitarian fashion, students of disasters have also been intrigued with relief operations. The academic investigation of various aspects of international disaster response was clearly made manifest in the 1970s. One of the major issues addressed by scholars during this period dealt with nature of aid itself. Some scholars including Brown (1977) asserted that the quantity of aid is often inadequate as a result of insufficient funding. In contrast, Davis (1977) declared that there was at times an overabundance of aid as was the case with emergency shelters in a Nicaraguan operation. Furthermore, Shaw (1979) illustrated in his study of immunisations in Guam that international aid is often not requested nor required for the disaster situation. Others yet argued that relief was frequently unusable because of cultural or practical reasons (Olson and Olson, 1977). For example, Mitchell (1977) elucidated the fact that certain foods or styles of clothing were rejected by the Islamic members of society in Turkey, and De Ville de Goyet et. al. (1976) showed that medicines could not be administered to disaster victims in Guatemala as they were expired.

Another significant topic researched by scholars regarded the method and

means of providing disaster assistance. Several savants, namely McLuckie (1970), Brown et. al., (1976) and Brown (1979), described the difficulties, or were highly critical of the low degree of coordination among humanitarian organisations. Additional students of disasters lamented the inexperience of volunteer and paid personnel in international relief operations (see Wauty et. al., 1977; Brown, 1977). And, many academics pointed to the political problems of providing relief. Taylor (1979), for instance, noted the exaggeration of disaster effects by relief agencies for the purpose of acquiring more resources. Similarly, Green (1977) pointed out the unwillingness of disaster stricken governments to seek aid in order to save face, the favoritism displayed by donor nations, and the inequitable distribution of relief supplies by those who wield power (see also Marshall, 1979).

Studies exhibited a diversity of other themes as well. McLuckie (1970) and Dynes (1972) assessed the lack of trust or presence of conflict among relief workers and disaster victims. Green (1977) highlighted the significant role that the media plays in generating funds while Spencer et. al. (1977) indicated how news-worthy rumors could get out of hand. Brown (1977) addressed the difficulty of assessing relief needs or obtaining response related information as McLuckie (1977) probed the impact that governmental organisation has on disaster response. Finally, Kates (1977) and Bolin and Trainer (1978) looked at what impact traditional family relationships could have on the provision of aid.

The two major policy studies undertaken during this period—the UNA USA Policy Studies Panel on International Disaster (1977) and the National Academy of Sciences' Committee on International Disaster Assistance (1979)—likewise revealed and added credence to many of the above academic findings. These analyses also provided new insights on, and policy recommendations for disaster relief as well. For example, the former group underscored the necessity of adjusting relief responses as each disaster is unique and takes place within a distinct social, political, and economic context. The UNA USA also stressed the value of promoting a mutual understanding of governmental and non-governmental roles in order to facilitate relief coordination. The latter council attempted to highlight the difficulty that relief

organisations have in distinguishing disaster related issues from the chronic problems facing Third World countries, and indicated their desire to prevent a duplication of efforts and the waste of resources by calling for inter-agency cooperation.

As can be seen, practitioners have historically felt a responsibility to care for the unfortunate victims of natural disasters. Their collective organisational interaction and individual mission statements revealed a desire to improve international relief operations. With similar zeal, students and policy analysts examined humanitarian actions in order to understand what takes place in the response phase of disasters and to recommend how the provision of aid could be improved in foreign territories. In sum, the prestige of the relief approach to calamities has traditionally been towering.

Where are we now?

In the late 1970s and early 80s the reliance on relief as a solution to disaster was coming under attack. By the 1990s a new approach which stressed disaster prevention began to gain hegemony. The predominance of mitigation and development over relief is now readily seen in both disaster policy and scholarship.

The shift in emphasis

Many of the previous mentioned scholars and policy think tanks that were concerned with disaster relief helped to generate interest in prevention strategies. Some cited the need for Third World preparedness as a means of supplementing the relief efforts of international donors and providers. Green, to illustrate, called for ways to 'improve uniformly the administrative and logistic capacities of national governments and relief organisations in disaster prone countries' (1977, p. 51). The UNA USA analogously recommended that developing nations acquire the necessary modern communication and transportation equipment 'to deal effectively with a major disaster' (1977, p. 33). Conversely, others began to see relief operations as inadequate responses to calamities and therefore desired to find ways to avert them altogether. Brown was among the first to argue that greater attention should be paid to prevention as disasters recur and are becoming more severe in developing countries (1979, p. 104). CIDA, in tandem, pushed for measures to be undertaken to alleviate the endemic problems of developing nations in order

to address the various causes of disasters (1979, p. 12; see also p. 93). Thus, the students and policy analysts who had generally focused on relief activities were partially responsible for pointing out the merit of disaster preparation and prevention.

Nevertheless, the works of other—particularly later—scholars had a more significant impact on disaster policies. Foremost among these were Burton, Kates and White's *The Environment as Hazard* (1979), Cuny's *Disasters and Development* (1983), and Hewitt's edited volume entitled *Interpretations of Calamity* (1983). Each of these books were critical of the relief approach, although to varying degrees. Burton et. al. affirmed that the effects of relief are 'largely palliative' (1979, p. 186). Cuny asserted that disaster relief 'maintained the status quo' (1983, p. 115). And, Hewitt and his entourage declared that relief actually 'makes matters worse' as it fosters dependency (1983, p. 123). Therefore, it was widely held that a post-disaster response alone was ineffective or even detrimental. Moreover, every one of these scholars noted that economic status was related to disaster vulnerability. Burton, Kates and White illustrated that, in spite of immanent danger, the less fortunate tend to live in areas that are risk prone. Cuny observed that calamities occur most frequently among the developing countries of the world; he stated that the root cause of disasters was poverty (1983, p. 11). Finally, Hewitt concurred that the plight of the poor was the central contributing factor for disaster vulnerability.

Consequently, these authors provided, again with somewhat different connotations, arguments in favor of prevention strategies. Burton et. al. advocated global monitoring of hazard, and the transfer and application of technology for early warning systems. Cuny saw economic development as a solution to the disaster problem. He thought improvements in structural engineering would reduce the adverse effects of calamities as well. Hewitt and his followers were very skeptical of Burton's et. al. 'technocratic approach'. They asserted that 'the enormous commitment to geophysical monitoring and prediction deals with a peripheral rather than a central ingredient of disaster' (Hewitt 1983, p. 28). What is more, the contributors to *Interpretations of Calamity* illustrated that disasters are not just 'unexpected' or 'unexplained' geo-physical events in which humans are

either helpless or blameless. Accordingly, Hewitt avowed that it is everyday activities which increases vulnerability and also acknowledged that something had to be done to help the destitute of the world. Unlike Cuny, however, Hewitt was more pessimistic about the immediate prospects for improving the lot of the needy. He therefore saw the need for a complete restructuring of values, or even of the entire social-political-economic system itself. Thus, regardless of their views on disasters and subsequent differences in policy prescriptions, Burton et. al., Cuny and Hewitt agreed that relief was only a short term response measure; something had to be done in the way of prevention. The books by these scholars have had tremendous impact upon present disaster policy and current academic trends.

Prevention in policy

In the policy arena, the shift to a prevention strategy is visible in the goals of the United Nations International Decade for Natural Disaster Reduction. The purpose of having governments unite to concentrate on disaster issues during the 1990s is to spread scientific knowledge in order to foster prediction, and also to facilitate mitigation through risk assessment and the application of early warning technologies and improved structural engineering (see Lechat, 1990). Little, if anything, was mentioned about the importance of relief or the imperative for improving the delivery of aid. The prevention approach has in fact gained so much credence now that the value of the United Nations Department of Humanitarian Affairs (DHA), UNDRO's successor, has recently been questioned. While the DHA is still intact, it is not clear if it will remain so in the future. Today relief seems to be a lesser component of international disaster policy.

Prevention in academia

In the academic world, a great amount of attention is also being placed on prevention strategies. A quick review of the subject matter of current scholarly work provides a flavor of this movement. The titles of papers presented at conferences and of published books and articles include: 'Disaster Resistant Communities' (Russell, 1997; see also Tucker, 1997), *Disasters, Development and Environment* (Varley, 1994; see also Sinha, 1992; Anderson and Woodrow 1989), and 'From Relief to Development' (Hyder, 1996; see also Anderson

and Woodrow, 1991; Tidemann, 1992). Funding is equally oriented to the prevention approach. One only need look at the list of grants in Natural Hazards Observer (published by the Natural Hazards Research and Applications Center at the University of Colorado at Boulder) for confirmation. The majority of moneys that are available for research are related to sustainable development or mitigation tactics which include disaster prediction, early warning technologies, and structural engineering techniques. Scholars and their supporting institutions also appear to indicate a prevailing bias for prevention.

With the discrediting of relief as an approach to disasters, prevention has emerged as the strategy in the 1980s and 1990s. International policies now concentrate on how the transfer of knowledge, the analysis of vulnerability, and the application of scientific breakthroughs may decrease or eliminate disasters. Students of disasters are equally caught up in the trend of examining the virtue of mitigation and development. In short, prevention seems to be gaining (or has) the same status that relief had 20 years earlier.

Where should we go from here?

Just as the sole reliance on relief came under attack in the latter 1970s and early 1980s, the strict emphasis on prevention may now be questionable in the late 1990s. The strategies of mitigation and development, in some instances, may neither be completely desirable or immediately feasible in the Third World. What we need therefore is research and policy that accepts as important disaster prevention as well as relief.

The desirability of prevention

A prevention-alone approach may not be advantageous for nations in the developing world. This fact may be due to several reasons. First, at the most fundamental level and regardless of attention given to prevention, disasters will always occur. The United States and Japan have probably spent the most money on disaster prevention, and yet these countries were still negatively affected by earthquakes in Northridge and Kobe. While specific social, political and economic policies geared towards mitigation will undoubtedly reduce the adverse effects of disasters, no society or nation can be completely assured that they are exempt from the overwhelmingly destructive and tragic forces of nature. Second, and closely related to the

previous point, a policy over-emphasising prevention may eclipse and subsequently diminish the likelihood of necessary preparation for relief. The earthquake in Kobe is again supportive of this proposition. The means available and steps undertaken to deal with this event were seen as deficient by some citizens living in the area (Heath, 1995). Therefore, resource allocation for response activities, disaster planning and preparation, and implementation of emergency management procedures are too important to be neglected. Third, the mitigation of disasters is often a function of, or is possible only to the extent to which there is development; yet development may in turn lead to increased vulnerability. Although 'economic progress' may facilitate the acquisition of early warning systems and promote improved structural engineering, it may also escalate the dangers of environmental degradation (Quarantelli, 1993a; Guarnizo, 1993), urban demographic mismanagement (Quarantelli, 1993a; Cuny, 1983, p. 16), dependencies on outside assistance (Campbell, 1990), and technological hazards (Quarantelli, 1997; Quarantelli, 1993b). Thus, development can make nations more disaster prone; it may prove detrimental if not carefully pursued. Fourth, the sole reliance on prevention ignores the fact the many of the current disasters in the Third World are not amenable to a 'technological solution'. In recent years the major catastrophes that the international community has responded to are political in nature. Civil wars and other internal conflicts are difficult to foresee and resolve, and will always generate victims who require assistance from humanitarian organisations.

Finally, the close academic attention directed towards prevention strategies may overshadow the need to conduct research on the response phase of disasters. For instance, more studies must be conducted on: how developing nations cope with disasters, how international humanitarian organisations can better assist and be integrated into indigenous relief capabilities and actions, the purported need for and benefits of restructuring the United Nations relief organisations, and the relationship between communications technology and improved relief coordination (see McEntire, 1997). Focusing on prevention alone would leave many of these crucial investigative stones unturned. Taken together, these points reiterate the fact that relief will always be needed and

may even be more so as development takes place. In addition, focusing only on prevention could be pernicious as it may preclude relief from being provided in complex emergencies and may also discourage much needed research from being conducted on issues pertinent to disaster response.

The attainability of prevention

The prevention of disasters may not also be easily attained owing to various persistent and prospective challenges of achieving development. First, prevention strategies might require large amounts of resources generated through economic development. But such a level of progress has not been achieved by most countries. Isbister (1993) is only one of many scholars who argues that lesser-developed nations of the past are generally the lesser-developed nations of the present (see also Kennedy, 1993). In spite of modest and dispersed successes the track record of development is not overly encouraging; there is no reason to believe that this tendency will be altered in the near future. Second, it is increasingly unlikely that Third World nations will receive the amount of international developmental aid that they received during the Cold War. With the fall of communism there is simply less reason for the United States and others in the West to fund development as has been done in the past. Furthermore, the nations that now make up the former Soviet Union are in no position to provide aid and virtually all other governments in industrialised countries have turned inward to solve their own specific domestic problems. Third, with mounting debt and more strings being attached to foreign loans, developing nations will be less capable to obtain or less willing to seek help in this direction. International banks may refuse to issue further credit in order to minimise their losses if default should occur. Also, Third World nations may not be willing to follow austerity programs, *laissez faire* economics and environmental protection programs which have been suggested by the IMF, World Bank, and other international institutions. Thus, pursuing a strategy of prevention through mitigation and development could conceivably be even more difficult in today's world context than it was in the past.

Some may point to the newly industrialised countries (NICS) as a counter argument to the above claims. Without a doubt, the 'economic miracles' of the

Asian Tigers have been nothing less than impressive. Nonetheless, Hong Kong, Singapore, South Korea and Taiwan developed in unusual circumstances—circumstances that are not likely to recur in the future. These countries received massive amounts of aid from the West due to its fear of communism, they did not suffer from the problems of debt, and, with the exception of Hong Kong, did not practice complete *laissez faire* economics. Even though the NICS are now placing a great deal of emphasis on disaster prevention, this has only occurred after or in conjunction with economic development. Part of the reason for the prominence of this strategy may be due to the massive investment from multi-national corporations (MNCs) that exists in these nations.

By now it should be evident that, at the international level, the pendulum has swung too far in the direction of prevention. Academics have carried out research and practitioners have pursued policies in the prevention vein without recognising what implications their activities might have on developing nations or the provision of relief. Prevention alone may not be void of disadvantages, mitigation and development may not be as easy to implement as we would prefer to believe. Because prevention may not be totally desirable or freely attainable, relief will remain a necessary ingredient for the reduction of the adverse effects of calamities. Finding the proper balance among these alternatives or examining ways to integrate them are the greatest challenges facing the international humanitarian community in the future.

Conclusions

It is possible that the argument presented in this essay will not be popular. My assertion goes against the grain of conventional wisdom, policy trends, and funding for scholars and practitioners. Let me reiterate, therefore, that I am not suggesting a return to a relief strategy alone. This mistake was obviously made up to the 1980s, and there is no reason to rely on such a lop-sided approach now. Likewise, I am not necessarily advocating that developed countries rethink their domestic disaster policies or re-appropriate relevant resources and revenues. For a variety of reasons, industrial nations are clearly in a position to pursue and rely upon prevention more than relief. Furthermore, I am not denying that many forms of inter-

national disaster prevention are readily obtained and fairly effective. Information gleaned from early warning systems, for example, can be shared and used with little or no cost.

What I have tried to convey is that in the Third World—where the reduction of disasters is most needed—the sole reliance on a policy of prevention may not, however ironically, be totally advantageous. Scholars and practitioners would be well advised to recall that what works and is possible in industrial countries might not be appropriate or applicable in developing nations.

In the mean time, then, while we wait for and hopefully encourage and facilitate prevention through mitigation and development in poorer nations, let us approach catastrophes in a more balanced fashion. After all, if our goal is to counter the devastating outcomes of disaster, prevention and relief are clearly two important sides of the same coin. Applying these dual responses appropriately to calamities is the major opportunity before us as we wind down the United Nations International Decade for Natural Disaster Reduction and prepare for the coming century.

References

- Anderson M. B. and Woodrow P.J. 1991, 'Reducing Vulnerability to Drought and Famine: Developmental Approaches to Relief Disasters', *Disasters*, Vol. 15, No. 1, pp. 43–54.
- Anderson M. B. and Woodrow P.J. 1989, *Rising from the Ashes: Development Strategies in Times of Disasters*, Westview Press, Boulder.
- Bolin R.C. and Trainer P.C. 1978, 'Modes of Family Recovery Following Disaster: A Cross-National Study', in *Disasters: Theory and Research*, E. L. Quarantelli (ed.), Sage, Beverly Hills, pp. 233–247.
- Borton J. 1993, 'Recent Trends in the International Relief System', *Disasters*, Vol. 17, No. 3, pp. 188–201.
- Brown B.J. 1979, *Disaster Preparedness and the United Nations: Advanced Planning for Disaster Relief*, Pergamon Press, New York.
- Brown B.J. 1977, 'The United Nations and Disaster Relief in the Sahel, 1973–75', *Disasters*, Vol. 1, No. 2, pp. 145–150.
- Brown B.J., Tuthill J.C. and Rowe E.T. 1976, *International Disaster Response: The Sahelian Experience*, Graduate School of International Studies, University of Denver, Denver.
- Burton I., Kates R.W. and White G.F. 1979, *The Environment as Hazard*, The Guilford Press, New York.
- Campbell J.R. 1990, 'Disaster and Development in Historical Context: Tropical Cyclone Responses in the Banks Islands, Northern Vanuatu', *International Journal of Mass Emergencies and Disasters*, Vol. 8, No. 3, pp. 401–424.
- Committee on International Disaster Assistance 1979, *Assessing International Disaster Needs*, National Academy of Sciences, Washington, DC.
- Cuny F. 1983, *Disasters and Development*, Oxford University Press, NY.
- Davis I. 1977, 'Emergency Shelter', *Disasters*, Vol. 1, No. 1, pp. 23–40.
- De Vattel E. 1916, *Les Droit des Gens; ou Principes de la Loi Naturelle, Appliqués à la Conduite et aux Affaires des Nations et des Souverains*, Carnegie Institution of Washington, Washington.
- De Ville de Goyet C., del Cid E., Romero A., Jeannee E. and Lechat M. 1976, 'Earthquake in Guatemala: Epidemiologic Evaluation of the Relief Effort', *Bulletin of the Pan American Health Organisation*, Vol. 10, No. 2, pp. 95–109.
- Dynes R.R. 1972, 'Cross Cultural Studies of Disaster', in *Proceedings of the Japan–United States Disaster Research Seminar: Organisational and Community Responses to Disasters*, Disaster Research Center, Ohio State University, Columbus, pp. 235–256.
- Green S. 1977, *International Disaster Relief: Towards a Responsive System*, McGraw-Hill Company, New York.
- Guarnizo C.C. 1993, 'Integrating Disaster and Development Assistance After Natural Disasters: NGO Response in the Third World', *International Journal of Mass Emergencies and Disasters*, Vol. 11, No. 1, pp. 273–87.
- Heath R. 1995, 'The Kobe Earthquake: Some Realities of Strategic Management of Crises and Disasters', *Disaster Prevention and Management*, Vol. 4, No. 5, pp. 11–24.
- Hewitt K. (ed.) 1983, *Interpretations of Calamity*, Allen & Unwin Inc., Boston.
- Hyder M. 1996, 'From Relief to Development: Food for Work in Bangladesh', *Disasters*, Vol. 20, No. 1, pp. 21–33.
- Isbister J. 1993, *Promises Not Kept: The Betrayal of Social Change in the Third World*, Kumarin Press, West Hartford.
- Kates R.W. 1977, 'Major Insights: A Summary and Recommendations', in *Reconstruction Following Disaster*, J. E. Haas, R.W. Kates, and M.J. Bowden (eds.), The MIT Press, Cambridge, pp. 261–293.
- Kennedy P. 1993, 'Preparing for the 21st Century: Winners and Losers', *New York Review of Books*, 11 February, Arco Press, New York, pp. 32–41.
- Kent R.C. 1987, *Anatomy of Disaster Relief*, Pinter Publishers, New York.
- Lechat M.F. 1990, 'The International Decade for Natural Disaster Reduction: Background and Objectives', *Disasters*, Vol. 14, No. 1, pp. 1–6.
- Macalister-Smith P. 1985, *International Humanitarian Assistance: Disaster Relief Actions in International Law and Organisation*, Martinus Nijhoff Publishers, Boston.
- Marshall M. 1979, 'Natural and Unnatural Disaster in the Mortlock Islands of Micronesia', *Human Organisation*, Vol. 38, Fall, pp. 265–272.
- McEntire D.A. 1997, 'Reflecting on the Weaknesses of the International Community During the IDNDR: Some Implications for Research and its Application', *Disaster Prevention and Management*, Vol. 6, No. 4, pp. 221–233.
- McLuckie B.F. 1977, *Italy, Japan, and the United States: Effects of Centralisation on Disaster Responses 1964–1969*, The Disaster Research Center Historical and Comparative Disasters Series, No. 1, Disaster Research Center, Ohio State University, Columbus.
- McLuckie B.F. 1970, *A Study of Functional Response to Stress in Three Societies*, Dissertation, Ohio State University, Columbus.
- Mitchell W.A. 1977, 'Partial Recovery and Reconstruction after Disaster: The Lice Case', *Mass Emergencies*, Vol. 2, No. 4, pp. 233–247.
- Olson R. and Olson R.S. 1977, 'The Guatemala Earthquake of 4 February 1976: Social Science Observations and Research Suggestions', *Mass Emergencies*, Vol. 2, No. 2, pp. 69–81.
- Quarantelli E. L. 1997, 'Problematical Aspects of the Information/communication Revolution for Disaster Planning and Research: Ten Non-technical Issues and Questions', *Disaster Prevention and Management*, Vol. 6, No. 2, pp. 94–106.
- Quarantelli E. L. 1993a, 'The Environmental Disasters of the Future Will Be More and Worse but the Prospect is Not Hopeless', *Disaster Prevention and Management*, Vol. 2, No. 1.
- Quarantelli E. L. 1993b, 'Converting Disaster Scholarship into Effective Disaster Planning and Management: Possibilities and Limitations', *Inter-*

national Journal of Mass Emergencies and Disasters, Vol. 11, No. 1, pp. 15–39.

Russell J. 1997, 'Disaster Resistant Communities: Common Denominators and Uncommon Benefits', paper presented at the 22nd Annual Hazards Research and Applications Workshop, Denver, Colorado, 14 July.

Shaw R. 1979, 'Health Services in Disaster: Lessons from the 1975 Vietnamese Evacuation', *Military Medicine*, Vol. 144, No. 5, pp. 307–311.

Sinha D.K. 1992, *Natural Disaster Reduction for the Nineties: Perspectives, Aspects, and Strategies*, International Journal Services, Calcutta.

Spencer H.C., Romero A., Feldman R.A., Campbell C.C., Zeinssig O., Boostrom E.R. and Long E.C. 1977, 'Disease Surveillance and Decision-Making after the 1976 Guatemala Earthquake', *The Lancet*, July 23, pp. 181–184.

Taylor A.J. 1979, 'Assessment of Victim Needs', *Disasters*, Vol. 3, No. 1, pp. 24–31.

Tidemann H. 1992, 'Disaster Prevention and Mitigation: Some Prerequisites', *Disaster Prevention and Management*, Vol. 1, No. 1.

Tucker C. 1997, 'International Perspectives on Hazards, Disasters and Sustainability', paper presented at the

22nd Annual Hazards Research and Applications Workshop, Denver, Colorado, 15 July.

UNA–USA Policy Studies Panel on International Disaster 1977, *Acts of Nature, Acts of Man: The Global Response to Natural Disasters*, S.D. Scott Printing Co., New York.

Varley A. 1994, *Disasters, Development and Environment*, John Wiley & Sons, New York.

Wauty E., de Ville de Goyet C. and Chaze S. 1977, 'Social Integration Among Disaster Relief Volunteers: A Survey', *Mass Emergencies*, Vol. 2, No. 2, pp. 105–109.

New publications

Aviation

Working safely with aircraft: for emergency services personnel

Dept of Natural Resources and Environment, Melbourne, Victoria, 1997, Video no. 275

Every day throughout Australia, emergency services personnel work with aircraft, conducting a variety of roles both airborne and on the ground. This video provides instructions in how to safely work in the aircraft environment, enter and depart helicopters and fixed wing aircraft, load personnel and equipment aboard aircraft, operate emergency equipment and respond to emergency procedures, protect yourself if caught in a fire-bombing drop zone, marshall helicopters and assist with sling load operations, assist with aircraft refuelling operations and load fixed wing firebombing aircraft.

Business Recovery

Is your business ready for the next disaster?

Henderson, Douglas M
Dorrance Publishing Co., Pittsburgh, Pa., 1996, 658.477 ISY

There are sound business reasons for developing a Business Continuation Plan. Financial reasons include the more rapid restoration of business activities and the mitigation of damage. The safety of employees and other individuals is important. Negligence in this latter area can result in litigation with direct financial consequences to the business. There are other moral and sometimes legal reasons for having

an effective plan of action in the event of a disaster. Large businesses recognise these reasons and employ risk management personnel or engage outside professional consultants. Smaller organisations have difficulty with the financial requirements of a professional dedicated staff and outside consultants.

This publication will greatly aid the business executive to either develop a Business Continuation Plan or understand and enhance the plan that has already been developed for the business (79 pages).

Coastal Zone Management

Australian coastal vulnerability assessment project report

Waterman, Peter
Department of the Environment, Sport and Territories, Canberra, 1996
333.91714 AUS

The Intergovernmental Panel on Climate Change (IPCC) has identified climate change as likely to have significant adverse impacts on the economic, cultural and natural values of the coastal zone in many nations. Trials of the (IPCC) Common Methodology for Vulnerability Assessment in Western Australia, Cocos islands and Kiribati as well as case studies of other nations have identified major weaknesses in the methodology. In 1993 Australia presented a revised methodology to the World Coast Conference held in the Netherlands which attempted to address these weaknesses. This report summarises a project in which, as part of its Climate Change and Coastal Action Programs, the Commonwealth Government supported a series of nation-wide

case studies and a national workshop to trial the revised methodology. Detailed outcomes of the project and case studies are available on the accompanying CD-ROM. A separate report on the national workshop has also been produced (75 pages).

Australian coastal vulnerability assessment workshop report

Waterman, Peter
Dept. of the Environment, Sport and Territories, Canberra, 1996
333.91714 AUS

The Intergovernmental Panel on Climate Change (IPCC) has identified climate change as likely to have significant adverse impacts on the economic, cultural and natural values of the coastal zone in many nations. Trials of the (IPCC) Common Methodology for Vulnerability Assessment in Western Australia, Cocos islands and Kiribati as well as case studies of other nations have identified major weaknesses in the methodology.

In 1993 Australia presented a revised methodology to the World Coast Conference held in the Netherlands which attempted to address these weaknesses. This report summarises a national workshop supported by the Commonwealth Government as part of its Climate Change and Coastal Action Programs to trial the revised methodology.

A separate project report is available and detailed outcomes of the project and case studies are available on a CD ROM produced in conjunction with the project report (51 pages).