Disaster Vulnerability: Outer Concept versus Inner Condition

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JAMES LEWIS
Senior Research Fellow
Centre for Development Studies
University of Bath

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There are signs of a small shift of emphasis, among some agencies, from a total concern for disaster relief towards policy inclusions for the instigation of measures for disaster preparedness; the paramount distinction, however, between relief as an external operation mobilized by outsiders in response to internationally significant events, and preparedness measures initiated or undertaken by indigenous authorities for all hazards regardless of magnitude, but of local significance, has yet to be generally understood.

The traditional concern of international disaster relief has been to mobilize material and financial assistance with all possible speed to the assistance of victims in stricken countries. The larger the disasters have been, the larger the mobilization required, and the larger the organisation has needed to be to handle each and every relief effort. Emphasis has thus come to be centred on disasters of large magnitude and therefore on those of international significance. Pre-conception with the largest disasters has been shared by the news-media in a knowledge of this focus of concern, but in turn influencing response by relief agencies dependent upon or accountable to the public whose money they are spending. The policies of some inter-governmental agencies are framed on similar principles and disaster research, also, follows a pre-concern with disasters of large magnitude. Research, commissioned or otherwise, may have had a role in forming those policies and may have been influenced by disaster reporting. That news media, public, non-government, government and inter-governmental disaster response share a focus of concern, a bias, in disasters of large magnitude is certain and to some extent understandable. Such concern does, however, serve to create, and then to reinforce, an "outsider" view of disaster, when in fact "insider" victim response to disaster is the key to indigenous measures of mitigation and prevention. That these measures are required for small disasters in small countries, as well as for large disasters, has escaped the attention of all sectors.
News media: distortions, adjustments, influence

Reports of the recent floods in Northern India occupied prominent positions of the London "Times" and "Guardian" newspapers for ten days during September 1978; and detailed reports of the earthquake in Iran appeared for four days in the same newspapers only a day or two after news of the floods had disappeared from their pages. About 10,000 people died in the Indian floods ("Guardian" 11 September) and two million were made homeless ("Guardian" 6 September). In Iran, those made homeless were also killed, and there were 26,000 reported dead in the city of Tabas and forty villages ("Times" 28 September).

The Indian floods were a shifting phenomenon and, affecting a series of regions and river plains one after the other, occupied a correspondingly long period in these newspapers. The floods also seriously affected the nation's capital, New Delhi, perhaps another reason for the significance given to the news items. The earthquake in Iran was sudden and more people died, two usual reasons for achieving headline reportage, but in its suddenness that disaster was relatively short-lived as far as news reporting was concerned.

At about the same time, three other flood disasters were reported in Asian countries. On the 13 September both newspapers reported flooding in Nepal. In eleven and twelve lines, reports were conveyed of 195 persons killed, £500,000 worth of damage to property, 1,614 head of cattle killed and 5,710 houses damaged. On the same date, only twelve lines in the "Guardian" reported floods in Laos in which half the country's rice crop had been destroyed and in which "hundreds of thousands of people were affected". Severe flooding in Vietnam was first reported by the "Sunday Times" on 24 September in a brief news item of eight lines which stated that 74
persons were dead and 1½ million were "in urgent need of relief", 200,000 homes had been submerged and one million acres of rice fields had been abandoned as a result. Twelve lines appeared in the "Times" the following day with similar news.

Press reportage in other Western countries may have varied in its allocation of emphasis. In the United States perhaps, due to political linkages or topicality, news of the Indian and Iranian disasters took second place to Vietnamese flooding. Whether it did or not is not the concern of this discussion, the point being that whatever reasons and influences can be indicated for news selection, by a straight comparison of news coverage of events, news features are not consistent in the degree of significance given to disaster events. On the basis of scant reports available, 200,000 homes submerged in Vietnam which must have rendered over a million people homeless, even temporarily, is "worth" more than eight lines, when two million homeless in India get significant double and triple column coverage for ten days.

Similar comparisons can be made in any selection of Western national newspapers at almost any time. "Big" disasters are news, but not all "big" disasters have similar news value. Large numbers of dead or homeless are the essential ingredient of "big" disasters, with large numbers of injured and large amounts of damage adding good news value. Many "big" disasters do not make significant coverage, but many "little" ones do, depending partly perhaps on what other news is coming in on that particular day and from what source. Fifty people died in tropical storms in the Philippines according to an eleven-line report in the "Guardian" (28 August), but on 5 August the same newspaper reported nine people dead in a flash-flood in Texas and devoted six lines of the total nine column-inches to eighty-year
old Claribel Lovelace trapped in her home for two hours in a six-inch airspace! The over-availability of news between the news-agencies of Western nations plays a significant part not only in the selection of news but in the news items available from which editorial selection is made. How many Claribel Lovelaces were there in the Philippines' storms or in the Vietnam floods?

News media coverage can neither be taken as a reliable indicator of internationally significant disaster, nor as an indicator of national or local significance of disaster. The improved flow of news from Third-World countries, a concern of the recent UNESCO Conference on the news-media, may increase the availability of news items, but editorial selection and emphasis will remain, in Western newspapers, the prerogative of Western editors. There must be an attempt by editors, and by local correspondents reporting to them, to show national and local impact of disasters. Our concept of the national and local significance of disasters will thus be distinguishable from pre-concepts based on emphasis on disasters of large magnitude and of international significance. Currently, news media reporting is itself representative of the "big disaster" syndrome.

What haphazard, emotive, subjective and sensationalised news-reporting attempts to do (to give it the benefit of the doubt) is to convey what it is like to be a victim, and to be inside the situation. The reasons why selections of news are made are therefore less important here than the impact that selection has. (Being inside the situation is surely much the same whether the event one is in receives headline treatment for ten days or gets eight lines on only one). But it only rarely succeeds, and even television, reporting in moving colour, only occasionally makes the breakthrough from interested observer on the outside to involved participant on
the inside. For the remainder of our disaster experience we are learning of other people's disasters in other people's countries or other people's states, cities, villages, homesteads - and trailer parks. Our receipt of such news in all its variable quantity and quality contributes significantly to our pre-conceptions of disaster, as well as to our pre-conceptions of almost anything else. We are the outsiders and "they" are the insiders and it is the outsiders that do nearly all the talking, reporting, and writing of the news media. "We are informed of everything but we know nothing".

In the meantime, there are two ways which may be available to assist a conversion of outsider reporting to insider experience. The first on a national, regional and perhaps local context is to obtain local press reports. Study of local press reports can place whatever the particular event for study is in the context of whatever other events there have been during a longer period of time. In this way, it can be more realistically understood what significance any particular event has in its own social context, and whether the significance, or insignificance, given to it by press sources, removed to the "outside" is justifiable. Reading of those reports by Western researchers in developed countries will further remove their assimilation to the "outsider" viewpoint and some transposition will invariably be necessary. The process will be assisted nevertheless in the context of this article in this Journal by the many English language newspapers in Third World countries edited and written for by indigenous nationals. There are numerous examples in the West Indies, South Pacific, South East Asia, India and Sri Lanka, for instance. An analysis of press reports from Indian newspapers has shown the comparative inadequacy (but not inaccuracy) of reporting in Western newspapers of the Tamil Nadu cyclone in Southern India (Lewis 1978b). When a larger than usual storm or tropical cyclone is reported, by being removed from its context of frequent recurrence of lesser events, it is given an international attention it does not
necessarily deserve. Moreover, indigenous capacity is often capable of dealing with a slightly larger than usual occurrence, a fact which is not conveyed by the reporting of the single event as if it was unique. The local significance of any event must be realised as a step towards an understanding of the insider experience.

The second way is to compare the national impact of disaster. Although only in a national context, it is usually at that level that third-world news is presented in the West. A comparison can be made of the national impact that disaster has created. How do one million homeless in Vietnam compare with two million homeless in India. How do 26,000 dead in Iran compare to 195 dead in Nepal - for instance? National capacity to cope with disaster will be quite different in each case, being less where the national scale of disaster is greatest.

Instead of simply co-relating national figures of dead or of homeless, comparisons must be made between those national figures and national figures from the same country of total population. Thus the national impact of disaster can begin to be demonstrated, not simply the world impact via news media. Vietnam, with a population of 47,600,000 is a very much smaller country than India with 620,440,000 (World Bank; preliminary figures for 1976: 1977). The impact of one million people rendered suddenly homeless in Vietnam is far greater than the impact of two million people rendered homeless in India. Comparisons of population figures could be taken as a crude indicator of social and economic impact of disaster. Comparisons of country size is another, although crude, indicator of national resources. India is 1,260,000 square miles in area and Vietnam is 127,000 square miles. The impact of disaster, of similar or comparable geographical extent, on the small country will be far greater than impact on the large country.
Simple comparisons of disaster losses between one country and another, reinforced by news media treatment of disasters are quite inadequate, but if this inadequacy was contained within the realms of news reportage perhaps there would be less reason for concern. But it is in the nature of any "news" that it is not so contained and that it becomes spread and absorbed. In so doing, it becomes an influence. Perhaps there is less evidence to indicate that media news is an influence on external governmental sources of disaster response. Most governmental sources have, by their terms of reference, to await requests for assistance from governments of stricken countries before sending relief-aid. Those requests will be more a product of "insider" assessment, than outsider assessments influenced by news media reporting. On the other hand, news media assessments will have certainly been used as a basis for response by the general public who provide contributions for the relief-aid sent by non-governmental organisations. And the non-governmental organisations will base the presentation of their appeals on the degree of coverage presented by the news media and will use the same news media to carry their appeal. Emphasis on disasters of large magnitude is not only shared by news media, public and non-governmental agencies, there is an unescapable relationship and even interdependence. No comparisons of national capacity to respond to its own disaster will be made - simply illustrations of the numerical enormity of what has happened. This may be or may have to be, an acceptable system as far as it goes. There will now always be the need for disaster relief of some kind, and relief-aid agencies send contributions to disasters whether or not there has been a specific appeal on behalf of that disaster. The system, however, reinforces the mis-conception created by the news media; a mis-conception which must be recognised in any country which has the role of donor as well as outsider and is a major source of aid, development-aid as well as relief-aid. Adjustment of the mis-conception could begin by a shift of some attention to measures for mitigation and prevention, and needs for their indigenous implementation.
Although much of disaster research, as it has developed in the United Kingdom, has formed many opinions of principle which are contrary to many of those formed by practitioners of disaster relief (such as the exchanges concerning the integration, or not, of researchers and research results in the formulation of policies and operations by non-governmental relief agencies e.g. The Times 23 August 1978), opinions of both researchers and practitioners, as they have appeared in the correspondence columns of the press, have been formed in response to large disasters as they have been reported by the news media, and contain a large "outsider" bias.

Pre-occupation with Western concepts and Western disaster, and Western outsider response to overseas disaster, has hindered any recent study and analysis of perception and response to hazard in third-world countries, and in societies and cultures different to our own. Such study should include anthropology as much as economics, sociology or geography (in terms of Western disciplines!). Preferably, as skills within these disciplines are developed within third-world countries they will come to be applied to conditions of hazard within those same countries. In the meantime, and perhaps with the aim of assisting that process, if there is to be an adjustment of "outsider" response, research must become more truly inter-disciplinary and motivated to provide methodology for application within vulnerable locations, on behalf of or by, indigenous administrations.

Anthropological concern with disasters may in the past have been preoccupied with simply furthering its own development, or of applying similar Western concepts upon societies and cultures it chose to study. The introduction of inter-disciplinary research techniques by no means, however, precludes the possibility of "outsider" pre-conception. The following three examples
from anthropology illustrate the motivation at varying levels, that might be displayed by researchers of any discipline. An analysis of (low-level) political crises of village administration brought about by hurricanes and subsequent famine in an island of the Solomons, is subtitled "An exploration of Operational Research" (Spillius: 1957) and referring to on-going work, concludes "my attempt will be to show that carrying out operational research and becoming involved in the social processes one is studying can be helpful not only in dealing with practical problems but also in producing data of importance to the problems of anthropological theory". "Dealing with practical problems" led to the dismissal of the researcher from the community he had aimed (to give benefit of doubt!) to serve. Outsider motives can predominate, even in an insider location!

More constructively, another anthropological study (Lessa: 1964) analyses the cultural, social and physical effects of a typhoon on the islands of Ulithi in the Caroline Islands of Micronesia. Five inhabited islands with a total population of 514 people were affected. Only one quarter of their houses were left habitable and two-thirds of their canoes were destroyed. The paper is valuable for its analysis of cultural and social change brought about, or accelerated by, the typhoon which is itself seen as part of the process of change and social and cultural dynamics. Perpetuation of the "vassal relationship" with the neighbouring and governing "overlord" island of Yap is described in terms which, in a context of a socio-economic study, would mean dependency. Beyond this, the paper goes no further to suggest what administrative changes should be introduced into the dynamic process, accelerated by the typhoon, to mitigate the next occurrence; and the author finally becomes pre-occupied with how his paper might assist the development of concepts about disaster.
But in a much more significant contribution by Schneider (1957), the social and cultural impact of four successive typhoons on the island of Yap itself are described, after the author's own experience of all of them and of life on Yap before and after their occurrence in 1948 and 1949. In a situation where 60% of all houses were totally destroyed by the typhoons, and where all those left standing were severely damaged, he writes:

"When I left (six months later) only a few houses had been rebuilt, most were still much as they were the day after they went down. But here again, this is less a sign of apathy or daze than it is of the normal Yap conception of the world and of life as lacking any time-urgency. There are only a few things on Yap which demand imperative action at a particular time. Things get done eventually and no-one is ever in much of a hurry".

This situation is contrasted with the (author's own) Western view

"On Yap, houses that go down stay down for a while. Paths are only gradually cleared of debris. In America it is really difficult to say which has the greatest impact, the tornado or the rescue and clean-up operations".

Western response to disaster requires a high degree of co-ordination of specialist skills. On Yap, everyone does anything and everything - except the specialist activities of making magic. Communication by word of mouth on Yap is therefore quite adequate where co-ordinated activity between separate persons, organisations and services is not necessary.

"Howling above a high wind is a perfectly adequate mode of communication on Yap. But howling through a telephone when lines are down just doesn't work in America".

Thus, the inappropriateness of simple transference of values from one culture to another for the purposes of assessing disaster impact and pre-
disaster needs. If specific responses, such as these examples of rebuilding and communication, are so removed from Western concepts, how much more removed are generalised concepts - of numerical magnitude of losses for instance?

There is an even more significant comment in this paper, on disaster relief. On Yap, the exchange of food is an activity which expresses many good human relationships. Typhoons, it is believed, are sent by an aggrieved party in a broken relationship of some kind, in extreme cases. Therefore, there will be no food exchange, and the phrase which means "Alas, no food" is used with some frequency during and after a typhoon. This expression reached the civil administration in Yaptown so repeatedly that relief supplies of tinned beef and gravy and rice were radioed for from Guam and distributed immediately, though these supplies were a quite unnecessary luxury and had not, in fact, been requested as a result of shortage. This short paper contains significant illustrations of differences between insider experience and outsider concepts and is an example of anthropological study of hazard at its best.

In such locations of extreme vulnerability or frequent occurrence, or both, disaster is endemic and a fact of life. In the language of Polynesia there is no single word which is the equivalent of "disaster", and, in the rich traditions of legend and folk-lore, disaster played no significant role, even though earthquake, volcanic eruption (Lewis: 1979), tsunami, drought and hurricane have recurred since pre-history and have played their part in the very creation and formation of islands, nations, societies and cultures. Is disaster as such, in these situations, a wholly Western concept, introduced by alien administrations from alien "outsider" sources and adopted for practical and pragmatic advantages?
Agency assessments and indigenous experience

Regrettably, disregard of indigenous capability is apparent within some operational, quasi-operational and administrative organisations in their examinations of their roles and assessments of their responses to natural disaster in a global context, and in this they may be influenced by researchers. The United Nations Institute for Training and Research (UNITAR) attempted an analysis of disaster proneness and vulnerability per country, and to relate the results of their analysis to the degree of preparedness in each country (Brown: 1978). Disaster proneness referred to the number of major natural disasters requiring international assistance experienced by a country between 1960 and 1977. Vulnerability was assessed by the "Dalton-King Magnitude Score" which is a composite of the number of people killed, the number affected and the amount of dollar damage resulting from disasters over the same period. The score ranges from one, the lowest "score" of 1-75 killed, and/or 1-15,000 total number of victim, and/or one to US $750,000 of damage, to ten, the highest "score". Forty-nine countries are listed, and the state of preparedness in each country assessed according to the existence of a national disaster organisation and/or a national disaster plan. In a constructive attempt to relate the degree of preparedness to the degree of vulnerability and proneness of a country the document concludes:

"There is only a weak positive relationship between the number of disasters a country had and its preparedness index. This is important to note because one might assume that those countries who are more disaster prone might be more prepared... There is less relationship between a country's vulnerability and its preparedness index. This is particularly important because it means that those countries which are the most vulnerable to natural disasters and which suffer most are not necessarily the most prepared. In fact there is hardly any relationship".
The assumption that those countries with the largest numbers of dead and
injured might be the ones who have been first to respond to their own
problem, is a result of pre-occupation with disasters of large magnitude.
They have not been.

The forty-nine countries have been identified by the United Nations
Economic and Social Council as

"those which are at the greatest disadvantage in the world
economy: the least developed, the land-locked and other low-
income developing countries as well as other developing
countries whose economies have been seriously dislocated as a
result of the present economic crisis, natural calamities,
and foreign aggression and occupation".

Whilst the importance of identifying "most seriously affected" countries is
appreciated, they are not all, therefore, listed for particular reference
to the effects of natural disaster, and the list makes some significant
exclusions in this respect; Guatemala is not included, neither is
Nicaragua. The highest gross national product per capita included is
US $500 (Guyana) and yet Papua New Guinea at US $470 is not, neither is
the Solomon Islands (US $310) nor Tonga (US $300) for example. Another
extremely disaster prone small country not included is Fiji.

If figures of gross national population and of land area had been compared
between countries then the concept of national scale of disaster might
have become apparent. Obviously, the smaller countries simply do not have
the population nor the economic resource to produce a high "score" on the
Dalton-King vulnerability index. Had more of these countries been listed
then it might have been noticed that it was in these countries that pre-
paredness planning is becoming significantly established. Had UNITAR taken
account of UNCTAD (UN Conference on Trade and Development) and a document
on "Special Measures in Favour of the Least Developed among Developing Countries" (UNCTAD: 1973) they may have begun to understand why:

"The effects of a natural disaster on a small island can be overwhelming. In a large country, when a natural disaster strikes it will normally affect only a part of the country, and resources will be available from other areas to help to make good the damage and economic loss. The whole of a small island may, however, be so affected".

Table One shows figures of homeless in recent disasters, compared to national populations for the same year and giving the national percentage of homeless population. Even the eleven million made homeless in Bangladesh by the cyclone of 1970 cannot closely compare, at fifteen per cent of the national population, with Hurricane "Bebe" of 1972 in Fiji which made twenty-two per cent of the national population homeless. A far greater national impact and far greater national suffering. "Small" disasters are major cataclysmic events when experienced from within, by the "insiders", at whatever level - community, regional or national. Preparedness planning in Fiji is at a very advanced stage both on paper (Gane: 1975) and with regional hurricane relief stores and centres administered within the government supply system throughout the island group.

A preliminary report of Hurricane "Bebe" appeared in four column inches in the "Times" (25 October 1972) giving the first grossly under-estimated accounts of damage and numbers of homeless. (Severe damage on Funafuti Tuvalu was also reported from the same hurricane as seen from a passing plane, but the five lines were concentrated on three half-submerged Japanese trawlers). A further one-and-a-half column lines appeared on 26 October, reporting a death-toll of thirteen and a still grossly under-estimated number of homeless of three thousand. Then on 7 November, an
additional three column inches appeared giving special notice of the relief fund and quoting the Fijian High Commission in London with what was the official Fijian's Government's estimate of 120,000 homeless. This was a significant report, no doubt the result of promotion by Fiji for its Relief Fund. Without it, the hurricane would have made even briefer news and would have remained in its severely under-estimated version of twelve days earlier. (In contrast, only ten days before the hurricane, the same newspaper carried a full page on the delights of Fiji as a tourist venue). As it was in total, a disaster of colossal national impact was severely under-reported even though it received slightly more attention than, say, the two million homeless in Vietnam in 1976.

Indigenous measures and the formulation of policies

Fiji is by far the largest island country in a regional grouping of island countries, who are members of the South Pacific Forum and its economic "arm", the South Pacific Bureau for Economic Cooperation. Recognising the past and potential impact of earthquake, hurricane, volcanic eruption and tsunami, these tiny countries also recognise their potential in regional co-operation. A regional disaster fund was established in 1976 and is managed in accordance with the recommendations of a study undertaken for the purpose supported by the Commonwealth Secretariat (Lewis: 1976). As another creative expression of regional interest and concern, and partly as a result of the Study in 1976, the first Regional Seminar in Disaster Preparedness was held later that year in Fiji, with the support of the League of Red Cross Societies, Commonwealth Secretariat, regional governments and the UN Disaster Relief Office. The Study recommended that in addition to regional attention to disaster preparedness, national attention should be given to disaster preparedness and preventive planning.
The earthquakes in Honiara, Solomon Islands of 1977 and in Tonga in 1978, have been the first two opportunities for commitments to be made for the Fund in accordance with the guidelines laid down, and accepted, for it.

In 1978, the Government of Tonga requested a Technical Assistance Assignment from the UK Ministry of Overseas Development to assess and advise on preventive, preparedness, relief and institutional measures to be taken against natural disaster (Lewis: 1978c). The 120,000 homeless in Fiji is only slightly higher than Tonga's total population. Neither the earthquakes which have been of extraordinarily high magnitude, nor volcanic eruption on either of two inhabited active volcanic islands (Lewis: op cit), nor hurricane nor drought, can produce losses to compare in size with any of the world's "big" disasters. And yet losses from all these, either singly or collectively, can cause disruption and damage to an extent which has been known to last for up to ten years and longer.

Some of the smallest and poorest disaster-prone countries are therefore directly engaged with measures for the reduction of their own vulnerability and for disaster preparedness and prevention. Brown (op cit) rightly distinguishes between proneness and vulnerability, a distinction previously made by Westgate (1976). Proneness is the numerical frequency or series of occurrence and can easily be assessed from outside, whilst the condition and the product (ie the losses) of vulnerability can only be assessed from within.

Proneness is a product of an accident of place and a consequent relationship with the manifestation of hazards which result in disaster. The degree of that result, the size and extent of disaster, is the expression of vulnerability and takes into account prevailing socio-economic conditions and practices. A vulnerable condition can only be assessed and
analysed from within, albeit with outside assistance deployed and administered from within, and can only be changed from within by insiders. Such change must be purposeful, and if change is not to increase vulnerability instead of decreasing it, it must be aware. Socio-economic change must therefore be planned by "insider" authorities, incorporated within socio-economic development planning, and directed, in part at least, to preventive and preparedness strategies for vulnerability reduction at national, regional, local levels.

"Preparedness for disaster relief", the title and purpose of the UNITAR report, betrays an "outsider" bias even when assessing the essentially indigenous activity of "preparedness". Preparedness must be for disaster itself, undertaken by potential victims, and not for the convenience of the international purveyors of relief supplies.

Similarly, preventive measures have to be undertaken by insider authorities. Development assistance may be necessary, and an improved recognition of the nature of preventive measures is required of donor agencies. Preventive measures must be considered as adjustments in the activities of vulnerable people at local levels to maintain a resilience to counter the effects of disaster, rather than only as resistance to natural forces themselves. Donor agencies must, at the same time, become aware of their pre-occupation with disasters of large magnitude and international significance that they share with, and probably receive in part from, media and research activities, if indigenous measures for disaster mitigation and self-reliance in disaster are to receive the support they require.
<table>
<thead>
<tr>
<th>Location</th>
<th>Disaster Type</th>
<th>Year</th>
<th>Approx Number of Homeless</th>
<th>Approx National Population for same year (4)</th>
<th>% Population made homeless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niue</td>
<td>Cyclone</td>
<td>1960</td>
<td>4,850 (3)</td>
<td>5,500</td>
<td>88.0%</td>
</tr>
<tr>
<td>Tonga</td>
<td>Cyclone</td>
<td>1961</td>
<td>8,000 (3)</td>
<td>66,000</td>
<td>12.0%</td>
</tr>
<tr>
<td>Skopje, Yugoslavia</td>
<td>Earthquake</td>
<td>1963</td>
<td>100,000 (1)</td>
<td>20 million</td>
<td>0.5%</td>
</tr>
<tr>
<td>Gediz, Turkey</td>
<td>Earthquake</td>
<td>1970</td>
<td>90,000 (1)</td>
<td>36 million</td>
<td>0.25%</td>
</tr>
<tr>
<td>Chimbuta, Peru</td>
<td>Earthquake &amp; Landslide</td>
<td>1970</td>
<td>500,000 (1)</td>
<td>14 million</td>
<td>3.5%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Cyclone</td>
<td>1970</td>
<td>11 million (1)</td>
<td>72.5 million</td>
<td>15.0%</td>
</tr>
<tr>
<td>Managua, Nicaragua</td>
<td>Earthquake</td>
<td>1972</td>
<td>250,000 (1)</td>
<td>2,152,000</td>
<td>11.5%</td>
</tr>
<tr>
<td>Tuvalu (Ellice Islands)</td>
<td>Cyclone</td>
<td>1972</td>
<td>800 (3)</td>
<td>5,700</td>
<td>14.0%</td>
</tr>
<tr>
<td>Fiji</td>
<td>Cyclone</td>
<td>1972</td>
<td>120,000 (3)</td>
<td>541,000</td>
<td>22.0%</td>
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<tr>
<td>Honduras</td>
<td>Cyclone</td>
<td>1974</td>
<td>80,000 (1)</td>
<td>2,784,000</td>
<td>3.0%</td>
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<tr>
<td>Guatemala</td>
<td>Earthquake</td>
<td>1976</td>
<td>1 million (2)</td>
<td>6,476,000</td>
<td>15.4%</td>
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<tr>
<td>Andhra Pradesh, India</td>
<td>Cyclone</td>
<td>1977</td>
<td>2 million</td>
<td>550 million</td>
<td>0.365% - National</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>45 million</td>
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Sources:  
(1) Davis 1977  
(2) Olsen 1977  
(3) Lewis 1976  
References


