

MEDIA STUDIES

149

Bolduc, Jean-Pierre. 1987. Natural Disasters in Developing Countries: Myths and the Role of the Media. Emergency Preparedness Digest 14 (3): 12-14.

Media messages regarding natural disasters are often based on popular myths. These include: 1) people think that victims and their governments are helpless and panicky; 2) the needs of every disaster are always the same; 3) it is essential to fly in food and clothing; 4) medicine, any type, should be sent immediately; 5) disasters should be measured by the number of deaths, the more there are the worse the disaster, and the greater the response needed; 6) dead bodies or carcasses cause large epidemics; 7) special search and rescue teams are essential to pull out victims; and 8) giving cash simply demonstrates that one does not know what to give. During a disaster, the media cause substantial pressure to be exerted on authorities to react immediately, even though information is at best sketchy. This results in the perpetuation of the above listed myths. A journalist should realize that there is an element of responsibility in reporting.

KW: Media studies, message content.

150

Carter, T. Michael. 1980. Community Warning Systems: the Relationship Among the Broadcast Media, Emergency Service Agencies and the National Weather Service. In Committee on Disasters and the Mass Media (eds), Disasters and the Mass Media, pp. 214-228. Washington, DC: National Academy Press.

This paper focuses on the role the broadcast media plays in disseminating severe or hazardous weather warnings to the general public or private organizations. The study is based on a survey of natural hazard warning systems in 20 communities in 18 states. An effective warning system depends on the existence of reliable communication lines between public agencies responsible for issuing severe or hazardous weather warnings and the commercial broadcast media. Two principle issues were examined: 1) the extent to which the broadcast media has the capability to receive hazardous information from a variety of community emergency agencies; and 2) the extent to which such capability is used during threatening weather to inform the public. With the exception of the local weather office, the author's findings show that such a capability is lacking. Furthermore, because information is often unspecific, it is unlikely that this information will prompt large numbers of the public to take immediate defensive actions.

KW: Media studies, hurricane, tornado, severe storm, flood, message source, message channel, emergency communication.

151

Gaddy, Gary D. and Enoch Tanjony. 1986. Earthquake Coverage by the Western Press. Journal of Communication 36 (2): 105-112.

The type and quantity of coverage given by five newspaper and television sources to earthquakes outside their countries is determined not by geographic origin, but by human and physical consequences. The study shows, conceptually and empirically, that care must be taken in assigning the term "bias" to unequal coverage without first examining the underlying news events themselves. Sometimes unequal events demand unequal coverage.

KW: Media studies, earthquake.

152

Goltz, James D. No date. Policy Problem Area: Media Coverage of the Immediate Post Earthquake Period--Sources of Inaccuracy in Media Coverage of Disaster: a Look at Professional Values and News Gathering Procedures. Unpublished paper. Los Angeles: University of California.

This paper examines the professional values of American journalists and the organization of the news gathering process. To increase the effectiveness of media coverage of disaster the author proposes a number of policy recommendations and incentives. Substantive beat reporters should replace generalists in coverage of all aspects of a natural disaster. Adequate research facilities should be provided to journalists by news organizations. Journalists should be aware that they are in an implicit "command post" position. Reporters should expand their coverage of recovery related activities, especially during the immediate post impact phase. Finally, journalists need to develop a better appreciation of audience feedback.

KW: Media studies, earthquake, message channel.

153

Goltz, James D. 1984. Are the News Media Responsible for the Disaster Myths? A Content Analysis of Emergency Response Imagery. International Journal of Emergencies and Disasters 2 (3): 345-368.

Disaster research scholars and emergency planners have often contended that the news media play a major role in creating and perpetuating various myths of natural disaster response. These

myths include widespread panic flight, psychological dependency and vicious competition for necessities on the part of victims and physical convergence for the purpose of looting by non-victims. The evidence which ties the news media to these myths of community breakdown is largely indirect. Survey data reveal a generalized belief among members of the public that the above enumerated behaviors are typical reactions of people faced with a sudden crisis. These data also indicate that the news media are the principal source of information about disasters for most people. Lacking are detailed analyses which document the extent to which the myths of community breakdown actually appear in news coverage of natural disaster events. This study, which focuses on the reporting of four earthquake events by two southern California newspapers, attempts to address this issue. Preliminary results suggest that some caution is warranted in making the generalization that natural disaster coverage disproportionately conveys a breakdown imagery of communities facing a major natural catastrophe.

KW: Media studies, earthquake, individual response.

154**

Hiroi, Osame, Shunji Mikami, and Kakuko Miyata. 1985. A Study of Mass Media Reporting in Emergencies. International Journal of Mass Emergencies and Disasters 3 (1): 21-49.

This paper examines the operations of mass media in disaster, the content of messages in disaster reporting, and the distortion in reporting warnings and disasters based on empirical studies in several communities in Japan. In the warning stage, the authors found that the broadcast media are generally the primary source of information. However, the warnings often did not reach a complete range of audience, nor could it induce an adaptive response among these recipients. During and after the disasters the main obstacles in reporting damages were the difficulties in mobilizing resources, uncertainties in reliable news sources, and malfunctioning communication channels. The article describes the main characteristics of the content of mass media reports in disasters. They include information on: 1) advice or directions; 2) disaster agent; 3) safety message; 4) damage; 5) countermeasures; and 6) restoration. Content analysis of the broadcast of two stations on the day of the Nihonkai-Chubu earthquake shows that personal messages and damages information were the most heavily broadcast. This did not always match information needs of residents. The media in Japan tend to exaggerate damages in disasters and not to report sufficiently the news people want to obtain. The reasons for these inaccurate reportings are: 1) journalists' attitudes to news editing and reporting; and 2) distorted images or myths among the journalists.

KW: Media studies, earthquake, message channel, false alarm.

155

Kueneman, Rodney M. and Joseph E. Wright. 1975. News Policies of Broadcast Stations for Civil Disturbances and Disasters. Journalism Quarterly 52 (4): 670-677.

The authors examined attitudes of mass communication organizations in regard to their handling of civil disturbances and natural disasters. Findings reported in this study suggest that: 1) media personnel generally perceive their audiences as possessing a quality of heightened excitability in stressful situations; 2) the mass media tend to utilize policies of restricted report checking and the withholding of information so as not to frighten or inflame their audience; 3) planning is more specific for natural disasters than for civil disturbances; and 4) any changes induced by experience with such events tend to be mechanical rather than operational in nature.

KW: Media studies, message source.

156

McKay, Jennifer M. 1983. 1983. Newspaper Reporting of Bush-fire Disaster in South-eastern Australia--Ash Wednesday 1983. Disasters 7 (4): 283-290.

Newspaper reports about a bushfire disaster in SE Australia were analyzed in order to present some understanding of the images those reports conveyed to the victims and non-victims in one affected state. The results demonstrated that newspapers gave limited prominence to reports containing warning or response information before or after the disaster. The newspapers reported most prominently case study descriptions of personal hardship or heroism which portrayed the victims as completely helpless during and after the event. The newspapers also devoted considerable space to reports describing the losses attributable to the bushfire, the factual details of which were accurate. This emphasis on content probably increased community perception of the danger of bushfire threat but, as little warning or response information was given, it is unlikely that the reports improved community preparedness for future events.

KW: Media studies, fire, message channel.

157

Mogil, H. Michael. 1979. Weather Emergencies and the Mass Media. Preprint Volume: Eleventh Conference on Severe Local Storms, Kansas City, Missouri, October 2-5, 1979, pp. 559-564. Boston, MA: American Meteorological Society.

The media plays a vital role in the "total" warning system. They must be made to feel an integral part of it, for they supply not only general weather information and warnings, but also play a

critical role in preparedness and response aspects. This paper briefly describes the warning system with an emphasis on the relationship between the National Weather Service (NWS) and the mass media. The report also examines a 1978 National Association of Broadcasters weather questionnaire that was distributed to its members. Some of the findings include: 1) most stations do not blindly break their programming for all bulletin issuances; 2) however, more than 95 percent of the responders use NWS bulletin information; 3) there was some feeling that the NWS over warns; and 4) several broadcasters noted the need for more information so they could let their audience know that the danger was over.

KW: Media studies, severe storm, tornado.

158

Morentz, J.W. 1980. Communication in the Sahel Drought: Comparing the Mass Media with Other Channels of International Communication. In Committee on Disasters and the Mass Media (eds), Disasters and the Mass Media, pp. 158-183. Washington, DC: National Academy Press.

This article examines the role of the mass media in the Sahel drought in comparison with the role of other channels of international communication. Throughout the long period before the drought became an international issue, coverage by special interest media had little influence on governments, international organizations, or the mass media. Once the mass media became involved, the issue came to the forefront of government and international organization agendas.

KW: Media studies, case studies, drought, message channel, message source.

159

Needham, R.D. 1986. The Cosmopolite-Localite Model: Newspaper Types and Natural Hazard Information Potentials. Environmental Management 10 (2): 271-284.

The author presents a description of the cosmopolite-localite model, a conceptual framework in which institutional and news coverage characteristics are organized according to four broad types. Hypothetical reporting patterns for natural hazards are graphed for the types along a continuum exhibiting local, provincial, and international characteristics. The model is tested against the hazard coverage of 13 Canadian and American newspapers. The model was found to be generally useful. Weekly journals at one extreme cover only the most localized hazards; newspapers at the other extreme of the model's continuum produce comprehensive coverage of hazards of national and international

importance; and those in the middle range of the continuum publish a more balanced presentation.

KW: Media studies, message source.

160

Needham, R.D. and J.G. Nelson. 1977. Newspaper Response to Flood and Erosion Hazards on the North Lake Erie Shore. Environmental Management 1 (6): 521-540.

Newspaper responses to flooding and erosion associated with Great Lakes high water in 1952-1953 and 1972-1974 is the focus of this article. Underlying the research is a general interest in informing the public more widely on choices available in resource and environmental decision-making. Suggestions for improving information flow on hazards and related environmental problems include: 1) politicians, civil servants, and the public need to acquire greater appreciation of the limitations of hazard reporting and its relation to newspaper types; 2) agencies should prepare and publish hazard information in such a way as to counterbalance the limitations of newspapers on both a type and overall basis; and 3) types of newspapers and reporting orientations should also be taken into account in disseminating information on a regional basis.

KW: Media studies, message source.

161

Oliver, John E. and Valerie Jones. 1982. Viewer Responses to Television Severe Weather Warnings: a Mid-West Case. In Professional Paper No. 14. Department of Geography and Geology, Indiana State University. 8 pp.

Rapid communication of information concerning severe local weather is necessary to prevent loss of life and minimize property damage. Television and radio are primary sources of this information and these media have developed a variety of methods to impact warnings to the public. Questions still remain regarding public attitudes and responses to warnings; however, this study attempts to evaluate the relative effectiveness of a selected method used to convey severe weather information, to gain insight into responses to broadcast storm warnings, and to analyze responses to see whether any subset of the public differs significantly in its responses. The research strategy utilized a questionnaire that was sent to a random sample of 100 persons living within the viewing area of station WTHI-TV in Terre Haute, Indiana. The survey's major conclusion was that viewers took warnings of severe weather quite seriously. Study results indicated that most people modified their behavior in response to a warning and that very few people would ignore a warning entirely. Type of dwelling, age and

sex did not offer a high degree of correlation to any specific action taken.

KW: Media studies, severe storm, message channel, effectiveness.

162

Riebsame, W.E. 1983. News Coverage of Seasonal Forecasts: The Core of Winter 1982-83. Bulletin of the American Meteorological Society, 64 (12): 1351-1356.

Public interest in the 1982-83 winter forecast was heightened by antecedent press coverage of the possible effects of a solar luminosity decline and the El Chichon eruption on the climate. Several private climatologists and "folk forecasters" issued statements calling for an exceptionally cold winter, especially in the eastern United States. The National Weather Service (NWS) forecast contradicted these by calling for warmer-than-normal winter temperatures in the East. The NWS forecast was carried by slightly more than half of the U.S. daily newspapers, but by only a few weekly newspapers. The reporting was generally quite accurate, although some problems emerged in headlining and in using maps along with stories. The apparent controversy between official and private forecasts was mentioned in virtually every news article. Communication problems such as those surrounding the winter forecast should be of as great a concern to forecasters as is basic accuracy: both affect forecast usefulness.

KW: Media studies, prediction/warning, message source.

163

Ritz, W.R. 1980. A Case Study of Newspaper Disaster Coverage: the Big Thompson Canyon Flood. In Committee on Disasters and the Mass Media (eds), Disasters and the Mass Media, pp. 195-201. Washington, DC: National Academy Press.

The story of the Big Thompson Flood of July 31, 1976, is told by an Associated Press member who reported the event. The author notes in retrospect that much of the coverage was based on a few early decisions by three people. These decisions included minimizing duplication of effort and ignoring advice from the general office in New York. Problems that did arise could be attributed to the insensitivity of a few reporters and amateurish attempts by others to "scoop" the field.

KW: Media studies, flood, message source, emergency communication.

164

Rogers, E.M., and R.S. Sood. 1980. Mass Media Communication and Disasters: a Content Analysis of Media Coverage of the Andhra

Pradesh Cyclone and the Sahel Drought. In Committee on Disasters and the Mass Media (eds), Disasters and the Mass Media, pp. 139-157. Washington, DC: National Academy Press.

This paper describes how the mass media report disasters by using two case studies: the Andhra Pradesh (South India) cyclone-tidal wave disaster of November 19, 1977, and the African drought of 1968-74. Comparison of the two case studies produced conclusions and suggestions on the differences in media reporting of sudden and slow-onset disasters, the media's varying roles in disaster reporting, and suggestions for future research. Information needs on slow-onset disasters are less urgent and pressing than are those needs in a sudden disaster. Newspapers tend to follow and report on disaster related events, whereas magazines wait for events to gain significance before they provide coverage. The media makes more use of visuals in reporting slow-onset disasters than they do in sudden-disaster reporting. Television news programs tend to be slower than other media in providing comprehensive reporting on sudden disasters. Different media play different roles during the various time phases of sudden and slow-onset disasters.

KW: Media studies, tsunami, hurricane, drought, message channel, dissemination.

165

Rogers, Everett M. and Rahul Sood. 1981. Mass Media Operations in a Quick-onset Natural Disaster: Hurricane David in Dominica. Natural Hazards Working Paper # 41. Boulder, Colorado: Institute of Behavioral Science, University of Colorado. 103 pp.

This study describes mass media operations during Hurricane David's impact on Dominica on August 29, 1979. Risk communicators will find some of the conclusions and recommendations of interest. Reports on a disaster should go beyond objective presentations of facts and show compassion for the victims. Likewise, the media should respect the rights of disaster victims who do not wish to be interviewed or photographed. While local authorities are usually the most reliable information source in a disaster, obtaining information must be done with tact, patience and a sense of cooperation. Mass media personnel must recognize that their audience does not always comprehend weather terminology. Mass communicators should not only interpret the disaster, but also place it in a broader context. To reduce the likelihood of a total loss of external or internal communication capability after a disaster the communications system should be spread over a wide area. Amateur radio operators should be recognized as a vital external communication link. Formal links between available weather information sources and local media should be established and maintained.

KW: Media studies, hurricane.

166

Scanlon, Joseph. 1980. The Media and the 1978 Terrace Floods: an Initial Test of a Hypothesis. In Committee on Disasters and the Mass Media (eds.), Disasters and the Mass Media, pp. 254-263. Washington, DC: National Academy Press.

A preliminary study is used here to test the researcher's hypotheses. They include: the media does not provide advance information about the possibility of disaster, what to do about it, or post disaster information about how to avoid future occurrences; the media focuses almost entirely on the disaster itself; public interest in the disaster fades after the disaster; and media coverage in provincial and federal capitals is especially attuned to the temporary dramatic qualities of the event. Findings generally support the author's hypotheses.

KW: Media studies, case studies, flood, message source.

167***

Scanlon, Joseph et al. 1985. Coping with the Media in Disaster: Some Predictable Problems. Public Administration Review 45 (special issue): 123-133.

While public administrators sometimes decry the mass media, the media can assist in pre-disaster education, provide information and advice to victims and others, help activate local disaster response, and assist in stimulating effective disaster relief. Many of the problems with the media can be managed and controlled because media behavior at all times is highly predictable. The media will inevitably hear of a disaster event, will report that news, and will search for more information. If the event is deemed newsworthy enough more media personnel will arrive making extensive demands on local transportation and communication facilities and disaster managers. The media will have problems with technical stories. If information is lacking the media will find something to report. The media will also withhold information when asked to do so by officials. One of the suggestions made by the author is that local officials should be prepared to bring in a communications expert when a disaster occurs.

KW: Media studies, message channel, effectiveness.

168

Scanlon, T. Joseph, Rudy Luukko, and Gerald Morton. 1978. Media Coverage of Crises: Better Than Reported, Worse Than Necessary. Journalism Quarterly 55 (1): 68-72.

The authors examined media reporting of six crisis and disaster events in Canada. On the whole they found that the media reported information without much regard for the credibility of the information service. They were also reluctant to name their sources, in part because the sources simply did not exist, and the accounts were speculative. Since, in the wake of a disaster, officials focus their attention and resources on aiding the injured, there is less effort on compiling precise reports and communication. The media need to realize that officials will seldom have accurate and detailed information immediately. They should also forgo their habit of reporting of information that cannot be tied to a specific source or verified. Officials, on their part, should be prepared to admit the absence of information.

KW: Media studies, emergency communication.

169

Singer, Benjamin, D., and Lyndsay Green. 1972. The Social Functions of Radio in a Community Emergency. The Copp Clark Publishing Company. 49 pp.

This case study examines radio operations during the London, Ontario blizzard of January 1971. Two central perspectives emerged from the study. First the authors found a microcosmic picture of society as communications, in a state of flux, filtered and channeled through the primary medium of radio during the emergency. Second, the study provided an assessment of the dynamic role played by radio in aiding the community to cope with its changed environment. Some local officials felt there should be a "hot line" linking the radio stations and the municipal government because telephone lines were often busy due to public inquiries.

KW: Case studies, media studies, winter storm, message channel.

170***

Sood, Rahul, Geoffrey Stockdale, and Everett M. Rogers. 1987. How the News Media Operate in Natural Disasters. Journal of Communication 37 (3): 27-41.

This paper uses research on news media activities during five natural disasters to show how the media and local officials often cooperate and sometimes conflict in accomplishing their respective goals, and how this process affects the public's understanding of the disaster event. The authors found that at the organizational level, the local news media will tend to pull available personnel off of normal tasks and reassign them to cover the disaster. Individual news personnel working in the field during a disaster assume greater independence and autonomy from their superiors.

Those reporters that were able to circumvent access and mobility problems are generally the most successful in filing their stories. The news media tend to seek particular kinds of information about a disaster from authoritative sources. The media seem to prefer law enforcement and fire departments as their prime information source. A centralized source of information (like an "information czar") is often preferred by the media. The media will assign the disaster a news value, which appears to be based on the number of deaths and injuries, extent of property damage, and geographic scope.

KW: Media studies, message channel.

171**

Turner, A.H. 1980. The Mass Media and Preparation for Natural Disaster. In Committee on Disasters and the Mass Media (eds), Disasters and the Mass Media, pp. 281-292. Washington, DC: National Academy Press.

This investigation was prompted by the USGS February 1976 announcement of an uplift on the San Andreas fault near Los Angeles (Palmdale Bulge) and the belief by many that a severe earthquake was imminent. The media's sense of responsibility is most directly reflected in decisions on what to report and what not to report. Editors are anxious to avoid any reporting that may produce mass panic or other undesirable responses. An assessment of responsibility for predictions, accuracy and value of reports must be made in relation to some assumed time span. Much media coverage lacks continuity. Individuals have only a vague awareness of media predictions and announcements concerning the prospect of an earthquake.

KW: Media studies, prediction/warning, earthquake, source credibility.

172

Waxman, Jerry J. 1973. Local Broadcast Gatekeeping During Natural Disasters. Journalism Quarterly 50 (winter): 751-758.

This article focuses upon local broadcast organizations as they attempt to cope with flooding in four communities. Specifically, the author examines "gatekeeping" of news organizations in different situational contexts. Major findings of the study are: 1) while during normal operations radio newsmen were the controllers of the major gate in the flow of news, during local disasters these and other gatekeepers were replaced by an emergent norm that opened all gates; 2) whereas during normal operations news was what newsmen made it, when disasters occurred, the public made the news; and 3) during normal operations there was little feedback between public and station.

KW: Media studies, flood.

173**

Wenger, Dennis, Thomas James, and Charles Faupel. 1980. A Few Empirical Observations Concerning the Relationship Between the Mass Media and Disaster Knowledge: a Research Report. In Committee on Disasters and the Mass Media (eds.), Disasters and the Mass Media, pp. 241-253. Washington, DC: National Academy Press.

This paper is one product of a survey by the Disaster Research Project at the University of Delaware of three midwestern communities that have had extensive disaster (hurricane, flood, tornado) experience. Part of the research has resulted in findings relevant to the importance of the media as a source of information, the relationship between various sources of information and the accuracy of disaster knowledge, and the degree to which members of the public and emergency officials believe that the media accurately portrays the amount of devastation produced by a disaster agent. The mass media is the most important distributor of disaster knowledge. Officials relied less heavily upon the media for disaster information than did the general public. Individuals for whom the mass media is the main source of information about disasters may exhibit less insight into the social aspects of the disaster than people who rely upon other sources. Generally, electronic and print media accounts exaggerate the impact of disasters.

KW: Media studies, hurricane, flood, tornado, message source, message channel, source credibility.

174

Wilkins, Lee. 1985. Television and Newspaper Coverage of a Blizzard: Is the Message Helplessness? Newspaper Research Journal 6: 51-65.

The author analyzed media coverage of the 1982 Denver blizzard. Newspapers were found to offer more information on four of the five phases of hazards: pre-hazard mitigation, preparedness, prediction and warning, and impact. Television, surprisingly, provided more follow-up and coverage of long-term recovery. An important conclusion is that both media focus on the event itself, provide little analysis, and that the event-oriented coverage conveyed messages emphasizing crisis, powerlessness, and individual helplessness. The author suggests that more attention must be given to such covert messages in hazard communication.

KW: Media studies, winter storm, message content, message channel.

SPECIAL POPULATIONS

175

Bagwell, Joyce B. 1983. How to Gain the Attention and Commitment of Public Service Organizations. In Walter W. Hays and Paula L. Gori (eds), Proceedings of Conference XXI, A Workshop on "Continuing Actions to Reduce Potential Losses from Future Earthquakes in the Northeastern United States", pp. 86-90. United States Dept. of Interior, Geological Survey Open File Report 83-844.

Public service organizations play a vital role in pre-event preparedness and post-event response, and gaining their support can reduce loss of life and property. To gain public service organization attention and commitment one should: 1) clearly identify desired groups; 2) reach the groups on a one-on-one basis at outset; 3) incorporate the goals of earthquake awareness and preparedness education with goals of the organizations; 4) write explicit plans; 5) involve the organizations; and 6) reward the work done by each organization.

KW: Special populations, earthquake.

176**

Beady, Charles H., Jr. and Robert C. Bolin. 1986. The Role of the Black Media in Disaster Reporting to the Black Community. Natural Hazards Research Working Paper #56. Boulder Colorado: Institute of Behavioral Science, University of Colorado. 83 pp.

This report analyzes the impact and potential of the black media in reporting and responding to natural disasters. It traces and interprets the sequence followed by black media operators in Mobile, Alabama, in gathering, selecting, and disseminating information about pre- and post-disaster activities. The report reviews the capability of the black media to reach large sections of the black community, assesses the ability of the black media to influence community actions to ensure safety, and describes the current and potential ability of both local and national black media to educate black communities concerning disaster mitigation, relief, and recovery programs. Findings show that there is a lack of information dissemination regarding predisaster preparedness and hazard mitigation on the part of the black media, but an effort to inform both immediately prior to and directly after the disaster. Television was the primary preimpact information medium, with a shift toward radio and newspapers during the postimpact stages. The authors suggest that since there is a greater listenership to black oriented radio stations, they are in a good position to reach a significant portion of the black

community with information concerning disaster mitigation, relief, and recovery. An important finding was that respondents generally did not cite the race of reporters as having any bearing on the believability of warning messages.

KW: Special populations, media studies, hurricane, dissemination.

177**

Coastal Area Planning and Development Commission. undated.
Hurricane Awareness: Action Guidelines. Brunswick, Georgia:
Coastal Area Planning and Development Commission.

Five booklets have been prepared by the Coastal Area Planning and Development Commission, which are directed towards increasing hurricane hazard awareness among specific age or interest groups. Varying in length from 8 to 16 pages, the booklets are aimed at school children, the elderly, hotel/motel owners, local government employees/officials, and marina/boat operators. Government officials are given concise guidelines on warning communications and emergency broadcast facilities, evacuation procedures, clean-up and recovery measures, and how to use a hurricane-plot map. Marina/boat operators are given tips about checks to make before casting-off and while on the water, equipment and supplies to keep on board in anticipation of severe weather, proper mooring techniques, and what to do while the storm is in progress. The age-group booklets contain information on assembling survival equipment and supplies, securing a house, and what to do during and immediately after a hurricane. While all possible guidelines for each group are not covered, the booklets provide a good model for risk communicators to follow, especially when trying to produce relatively effective materials at low cost.

KW: Special populations, education and awareness programs, hurricane, brochures.

178

Huerta, Faye and Robert Horton. 1978. Coping Behavior of Elderly Flood Victims. The Gerontologist 18 (6):541-586.

A study of the effects of the Teton Dam disaster in 1976 upon the elderly provided a test of the assertion in the literature that the elderly are more likely to over report their losses and express feelings of relative deprivation than younger people. The findings suggest that elderly persons cope quite well with disaster situations and tend to report fewer adverse emotional results and feelings of relative deprivation than younger victims. Elderly persons need to be advised in their own language style of financial, legal, and tax considerations. They also generally would prefer to be in the role of information and opinion disseminators than passive recipients.

KW: Special populations, flood.

179

Lindell, Michael K., Ronald W. Perry, and Marjorie R. Greene.
1980. Race and Disaster Warning Response. Battelle Human Affairs
Research Center. 15 pp.

This paper compares racial groups along critical dimensions related to the interpretation of disaster warning messages. In addition, the authors attempt to develop a theoretical context within which to examine disaster warning response. Three primary race differentials were discovered: 1) Mexican-Americans were more skeptical than whites about believing warning messages, no matter what the level of specificity; 2) Mexican-Americans interpreted the same messages as indicating lower levels of personal danger; and 3) Mexican-Americans were less likely to evacuate than whites, without regard to levels of warning belief and perceived personal risk.

KW: Special populations, flood.

180

Nilson, Douglas C. 1983. How to Gain the Attention and Commitment of Political Officials: An Earthquake Politics Primer. In Walter W. Hays and Paula L. Gori (eds), Proceedings of Conference XXI, A Workshop on "Continuing Actions to Reduce Potential Losses From Future Earthquakes in the Northeastern United States", pp. 73-79. United States Dept. of Interior, Geological Survey Open File Report 83-844.

Since socio-political climates and decision maker psychologies interact to permit local officials to ignore earthquake responsibilities, cleverly formulated strategies are needed to induce approval of mitigation and preparedness measures in earthquake prone communities. Obtaining endorsement of measures from local leaders is vital. Convince elected officials that an earthquake can strike during their term in office. However, let them know that earthquake problems can be managed. Even though earthquakes in themselves are unpreventable, the resulting damage can be substantially reduced. Thus officials should be aware of the "political liability" and reverberations that can result if they did not take action to prevent loss of life and property when they had an opportunity. Presentations of benefit/price ratios facilitate comparisons and impresses policy makers. Let officials know that burdens can be spread across society and time. On the other hand, when needed point out specific industries, professions, firms, or individuals that will benefit from hazard legislation. Finally safety solutions can generate coalitions.

KW: Special populations, earthquake, legislation/regulation.

181***

Palm, Risa. 1981. Real Estate Agents and Special Studies Zones Disclosure: the Response of California Home Buyers to Earthquake Hazards Information. Program on Technology, Environment and Man Monograph #32. Boulder, Colorado: Institute of Behavioral Science, University of Colorado. 145 pp.

The Alquist-Priolo Special Studies Zones Act is a legislative effort for regulating real estate practices in areas where a natural disaster, in this case earthquakes, can occur. It requires California real estate agents or sellers to inform prospective buyers whether a property being negotiated lies within one-eighth of a mile of an active earthquake fault trace. This study addressed four questions: 1) whether real estate agents were actually complying with the law; 2) whether home buyers were responding to information on hazards in special zones; 3) whether the law really provided prospective buyers with adequate information to make informed decisions about matters of environmental risk; and 4) whether the agent disclosure process is an effective method to convey natural hazard information to home buyers. Findings indicate that the law has generally been ineffective, since patterns have failed to emerge which would show a measurable response in either buyer behavior or housing price trends. Reasons for low buyer response include role conflict on the part of the real estate agent and the fact that buyers often regard a house as a financial investment rather than a permanent residence.

KW: Disclosure studies, case studies, earthquake, message source, individual response, legislation/regulation, special populations, effectiveness.

182

Palm, Risa I. 1983. How to Gain the Attention and Commitment of Business and Industry to take Action to Lesson the Effects of a Destructive Earthquake: The Role of the Home Mortgage Lender. In Walter W. Hays and Paula L. Gori (eds), Proceedings of Conference XXI. A Workshop on "Continuing Actions to Reduce Potential Losses from Future Earthquakes in the Northeastern United States", pp. 61-68. United States Dept. of Interior, Geological Survey Open File Report 83-844.

The author explores the possible role that home mortgage lenders could play in informing homeowners of hazardous geologic conditions and conditioning home buyer response. If institutions do not discourage home buyers from exposing themselves to earthquake related economic risk, then individuals will not be dissuaded from investing in such property by public information campaigns. The study found that large home mortgage lenders were reluctant to take seismic risk into account in their lending policies.

KW: Special populations, case studies, earthquake.

183

Perry, Ronald W. and Marjorie R. Green. 1982. The Role of Ethnicity in the Emergency Decision-Making Process. Sociological Inquiry 52 (4): 306-334.

Data derived from fatality and injury counts following disasters, though sparse, documents that minority group citizens tend to suffer disproportionately high negative consequences in connection with the impact of disasters. On the basis of this information, it is inferred that differences exist between the emergency decision-making processes of minority and majority citizens. This paper lays the theoretical groundwork for beginning to revise existing conceptual models of warning response behavior to more adequately address the variation associated with minority group status. The authors put forward a comprehensive model of warning response which includes hypothesized relationships of a primary variable to the probability of evacuation. Some of these include: 1) the more precise an individual's adaptive plan, the higher the probability of evacuation; 2) the greater the individual's perception of real threat (warning belief), the greater the probability of evacuation; 3) higher levels of perceived personal risk will result in a greater likelihood of evacuation; 4) more family contact will increase warnings received; 5) ethnic minority status is related to kin contacts; and 6) ethnic minorities tend to have a lower perceived credibility of authorities. While, at first glance, risk communicators may find this article of only peripheral interest, the article provides a good background on group response to warnings and review of the literature.

KW: Special populations, review, group response.

184

Perry, Ronald W., Marjorie Green, and Alvin Mushcatel. 1983. American Minority Citizens in Disaster. Seattle, Washington: Battelle Human Affairs Research Center. 338 pp.

Results are presented of a multi-year study of minority citizen behavior in disasters. Three aspects of emergency management are addressed: warning and response, preparedness behavior, and community relocation as a flood mitigation measure. Study findings support the hypotheses that as levels of perceived personal risk and belief increase, citizens are more likely to comply with evacuation warnings. Blacks who perceive risk to be low are more likely to undertake some protective action as warning belief increases, but the majority still do not evacuate. Whites and Mexican Americans tend to continue their normal routine when they believe their risk is low, even if risk warnings increase.

KW: Special populations, flood, receiver perception, individual response, group response.

185

Prud'homme, Anthony. 1983. How to Gain the Attention and Commitment of Business and Industry. In Walter W. Hays and Paula L. Gori (eds), Proceedings of Conference XXI, A Workshop on "Continuing Actions to Reduce Potential Losses From Future Earthquakes in the Northeastern United States", pp. 69-72. United States Dept. of Interior, Geological Survey Open File Report 83-844.

The author lists and briefly discusses several actions or events which will help to concentrate the minds of business and industry on preparing for earthquakes. Some of these include: 1) focus on all major hazards, not just earthquakes; 2) publicity -- public awareness will compel businesses to respond to their perceived needs; 3) seminars and conferences will also create publicity; 4) get large companies to take a leading role, others will follow; 5) demonstrate the benefits of being prepared; 6) demonstrate the costs of being unprepared; and 7) establish an emergency planning position in the company.

KW: Special populations, earthquake.

186***

Stallings, Robert A. 1986. Reaching the Ethnic Minorities: Earthquake Public Education in the Aftermath of Foreign Disasters. Earthquake Spectra 2 (4): 695-701.

Public education programs intended to increase individual and household preparations for earthquakes often prove to be disappointingly ineffective, especially in reaching minorities and ethnic groups outside the mainstream of community life. This paper argues that the success of such programs can be improved by understanding the ebb and flow of earthquake saliency as well as the complex social structure of our cities. In particular, earthquakes and other major disasters in the ancestral homeland represent "teachable moments" when receptivity to earthquake safety information may be especially high among members of the ethnic community with a variety of psychological and personal links to that nation. Specific suggestions for taking full advantage of these teachable moments include: 1) conduct a detailed community analysis; 2) make contact with key ethnic community leaders; 3) approach local folk heroes; 4) prepare any needed materials beforehand; 5) promote earthquake safety legislation; 6) develop good sources of information about disasters in other countries; and 7) address targeted groups in person as often as possible.

KW: Special populations, education, earthquake.

187

Steele, G. Alec, Morgan Lyons, and Don D. Smith. 1980. Area Agency on Aging Disaster Contingency Planning: the Pre-Disaster Phase. In E.J. Baker (ed.), Hurricanes and Coastal Storms: Awareness, Evacuation, and Mitigation, p. 50-55. Report # 33. Florida Sea Grant College.

In other case studies it has been found that the elderly engaged in precautionary activities less frequently than younger residents, were less frequent listeners to radio and television prior to and during the storm, during evacuation tended to go to friend and relatives, and tended to be more influenced by family and friends. This paper discusses the implications of these findings on the warning and evacuation components of the Area Agency on Aging (AAA) contingency plans for the evacuation of the elderly. Some of the suggestions offered as possible modifications to pre-disaster contingency plans include: 1) design information brochures for specific evacuation plans; 2) localize and write brochures for particular target areas and groups; 3) enlist neighborhood representatives to serve as block captains and alternatives; 4) elderly residents should have a telephone number of the block captain; 5) lines of communication should be verified periodically to update the evacuation needs and intentions of the elderly; and 6) residents should be encouraged to recruit newcomers into the communication network.

KW: Special populations, hurricane, evacuation.

CASE STUDIES

188

Adams, David. 1965. The Minneapolis Tornadoes, May 6, 1965: Notes on the Warning Process. Disaster Research Center Report #16. Columbus, Ohio: Ohio State University. 29 pp.

This paper focuses on the warnings given in Minneapolis-St. Paul on May 6, 1965, when a series of destructive tornadoes hit the northwestern suburbs of the Twin Cities. The author found reason to believe that while Weather Bureau bulletin language was clear to professionals, to the public such bulletins often remained ambiguous at best. A warning signal by itself is incomplete under most conditions. Warning confirmation should be available immediately following the sounding of an alert. Because of the need of confirmation and maximum coverage, as many channels of communication as possible ought to be employed. This case study suggests that it is possible to place too much confidence in the mechanical elements of a warning system.

KW: Case studies, prediction/warning, tornado.

189

Cross, John A. 1985. Flood Hazard Information Disclosure by Realtors. Natural Hazards Working Paper #52. Boulder, Colorado: Institute of Behavioral Science, University of Colorado. 46 pp.

This report compares the effects of flood information on home purchasers' behaviors in Florida to the effects of disclosing earthquake information to home buyers in California. Research in California in 1983 showed that familiarity with the fact that a house was in a danger zone rarely altered a purchaser's intention to buy it. The study examined both residential home buyers and mobile home buyers in the Florida Keys, and found that their attitudes were similar to Californians'. Not only do most real estate agents disclose hazard information in a manner least likely to cost them a sale, but the recipient often is not inclined to act upon the information even if it is given. The majority of such recipients do not even want to hear such pejorative information. Another finding specific to the Keys is that prospective home buyers decided where to migrate before they decided to move--a characteristic of the migration of retired persons. The disclosure did have a positive influence on the Keys' residents' acquisition of flood insurance, but did not deter population growth in hazardous areas.

KW: Case studies, disclosure studies, hurricane, flood, earthquake, dissemination.

190**

Danzig, Elliot R., Paul W. Thayer, and Lila R. Glanter. 1958. The Effects of a Threatening Rumor on a Disaster-Stricken Community. Publication 517. Washington, DC: National Academy of Sciences, National Research Council. 116 pp.

This study examines the behavior of people in a flood stricken community (Port Jervis, New York) in response to a false rumor that a large dam upstream from the community had broken. About a quarter of the city's inhabitants fled within an hour. First, a descriptive account of the rumor communication network and of behavior of residents prior to and during the spread of the rumor was prepared from these data. Second, a random sample of city residents and a saturation sample from the previously flooded area were interviewed. Data is presented on variables related and not related to flight behavior, respondents reactions to rumor and denials, confirmation behavior, credibility of sources, etc. In order to maximize predictable and appropriate reactions the authors conclude that it is highly important to provide: 1) an educational program designed to acquaint the public with the nature of potential disaster and actions for survival; and 2) prompt reduction of ambiguity concerning the range of destruction while the disaster is in progress.

KW: Case studies, flood, false alarm, source credibility, uncertainty.

191

Drabek, Thomas E. et al. 1979. The Flood Breakers: Citizens Band Radio Use During the 1978 Flood in the Grand Forks Region. Program on Technology, Environment and Man, Monograph # 29. Boulder, Colorado: Institute of Behavioral Science, University of Colorado. 119 pp.

Citizen Band (CB) radios and their use during the 1978 floods along the Red River Valley near Grand Forks, North Dakota are the topic of this report. Specifically, CB use patterns, problems encountered, perceptions of benefits, and views regarding policy recommendations for CB use in future disasters are discussed. Major findings of the study include: 1) the pre-existing emergency services network reflected minimal pre-planning for CB radio use; 2) community CB use by the emergency system varied, resulting in the identification of three alternative response modes; 3) perceptions of the costs and benefits of CB use did not vary significantly across different sectors of the user community, which attested to various positive contributions and minimized costs; and 4) policy option perceptions did vary among those interviewed reflecting demographic and organizational characteristics, especially in regard to desirability of increased regulation and control.

KW: Case studies, flood, message channel.

192

Gori, P.L. and M.R. Greene. 1987. The Influence of National Attention on Long-Term Earthquake Preparedness Policy in Charleston, South Carolina. Earthquake Spectra 3(1): 91-101.

The Charleston, South Carolina, area offers a unique opportunity to study the implementation of policy for long-term earthquake preparedness at the local level. Interviews of public officials and others documented the low state of preparedness in 1981 and an improved situation in 1986. Five barriers to the implementation of earthquake preparedness policy were: 1) the earthquake problem is not a high priority for local officials or the public; 2) necessary technical information is not definitive; 3) adequate information by itself will not necessarily lead to appropriate action; 4) few advocates are organized around the issue of seismic safety; and 5) the costs associated with seismic safety are seen as prohibitive. These barriers have been overcome, in part, because of the involvement of local leaders, research and information programs by the federal government, media briefings, and numerous local workshops.

KW: Case studies, education, earthquake.

193

Greene, Marjorie R., Ronald W. Perry, and Michael U. Lindell. 1981. The March 1980 Eruptions of Mt. St. Helens: Citizen Perception of Volcano Hazard. Seattle, Washington: Battelle Human Affairs Research Center.

Survey data from this study suggests that intensive dissemination of hazard information during a short period of imminent disaster threat sensitizes people to the pending event. Pre-hazard communication of risk is important if officials want the public to understand the nature of the threat. It is plausible that officials themselves need to be convinced of the nature of volcanic risk. Once risk is communicated to the public, clarification of the hazard and protective guidelines are important for the threatened population.

KW: Case studies, volcano, receiver perception.

194***

Gruntfest, Eve C., Thomas E. Downing, and Gilbert F. White. 1978. Big Thompson Flood Exposes Need for Better Flood Reaction System to Save Lives. Civil Engineering--ASCE 48 (2): 72-73.

This brief article describes some of the lessons that can be learned from the 1976 Big Thompson Flood for the development of effective warning messages and public information programs. Nine guidelines for wording an effective warning message are: 1) convey a moderate sense of urgency; 2) estimate the size of the expected flood; 3) estimate the time before impact; 4) provide specific instructions for actions; 5) confirm the threat; 6) describe actions of others; (7) tell the audience the number of previously issued warnings; 8) mention current environmental conditions; and 9) advise the public to keep away from the hazard zone. Components of a successful public flood information program should include: 1) paint lines on buildings to designate previous floods; 2) place signs on canyons describing safety measures; 3) hold public meetings to plan flash flood preparedness; 4) develop school flood safety programs; 5) hold emergency flood drills; 6) require realtors and lenders to disclose whether a property is in a flood plain; and 7) print notices of flood vulnerability on travel maps.

KW: Case studies, flood, education, prediction/warning.

195**

Handmer, John W. 1980. Flood Hazard Maps as Public Information: an Assessment Within the Context of the Canadian Flood Damage Reduction Program. Canadian Water Resources Journal 5 (4): 82-110.

Flood hazard maps are essential for the successful implementation of a range of flood mitigation measures. However, the use of flood maps for public information is often advanced as partial justification for a mapping program. A number of assumptions implicitly underlie such justifications: that the public will understand the maps, and that they will have some effect on people's attitudes to the flood hazard. A review of the cartographic literature on map perception indicates that no firm statement can be made regarding map comprehension. The results of work by geographers on flood maps as public information suggest that maps have little effect on people's attitudes towards floods, and also reveal difficulties in achieving satisfactory research design. The research reported here examined the flood mapping component of the Canadian Flood Damage Reduction Program. Results indicate that although there was a substantially increased flood awareness among the post-map group this could not be ascribed to the maps. Rather, the increased activity in all communications media appears to have been responsible for the heightened awareness.

KW: Case studies, flood, maps, receiver perception.

196

Hansson, Robert O., Dianne Noulles, and Steven J. Belliovich. 1982. Knowledge, Warning, and Stress: a Study of Comparative Roles in an Urban Floodplain. Environment and Behavior 14 (2): 171-185.

Tulsa, Oklahoma floodplain residents were surveyed to investigate the role of knowledge, experience, and warning in mediating the stress associated with urban flooding. Among the respondents, knowledge about flooding was associated with less trauma during the last flood and reluctance to support indiscriminate government intervention. Increased prior warning of a flood, however, was related to intensified residual fear and feelings of desperation, to more frequent somatic manifestations of stress, and to greater support for all government intervention programs. Previous flood experience (especially recurring experience) was associated with increased fear, depression, and health-stress outcomes. Commitment to adaptive community intervention programs was related to recency of one's flood experience. Having flood insurance was unrelated to stress measures.

KW: Case studies, flood, receiver perception.

197**

McKay, Jennifer M. 1984. Community Response to Hazard Information. Disasters 8 (2): 118-123.

The impact of flood hazard information on public acceptance of a selected flood mitigation strategy was assessed by an analysis of the control of newspaper reports of community reactions and letters to the editor. The impact of personal delivery of a flood hazard map on individual perception of risk and attitude to such information was assessed using personal interviews. The results indicated that media coverage of the flood hazard information reduced public criticism of the works. This result must be partially attributable to the dramatic style of media coverage and the fact that the media only emphasized the positive value of the works. The interview showed that personal delivery of the information raised perception of risk, improved comprehension of flood risk, and had no impact on risk acceptability; but discouraged some respondents from seeking information in the future. Factors to explain the last negative change were identified to be the format of the map sheet and low salience of flood hazard. Methods to improve community response to hazards include: 1) hazard information should be disseminated after a local (even minor) occurrence of a hazard; and 2) if a map is to be used in awareness materials the most desirable format is obtained by manipulating the scale of size of the map to depict the hazard prone zones as small in relation to the hazard free zones.

KW: Case studies, flood, message content, maps, effectiveness.

198

Moore, Harry E. et al. 1963. Before the Wind: a Study of the Response to Hurricane Carla. Publication 1095. Washington, DC: National Academy of Sciences, National Research Council. 164 pp.

This study represents one of the first reports of a large scale pre-disaster evacuation. The authors interviewed over 1,500 people in Texas and Louisiana during the aftermath of Hurricane Carla in 1961. A number of the findings relate to communication processes, timing and targeting. Evacuation decisions are often made by family groups. Thus official statements and advisories serve as a basis for discussion in family and other primary groups and any feasible plan for action must win assent of all "voting members" of the family group. Members of the larger and more authoritarian institutions appear more likely to seek and accept official advice. Word-of-mouth was probably the most important factor in evaluating formal warnings and developing attitudes toward evacuation. When government and emergency personnel gave advice or orders there was a tendency among residents for discussion to give way to action. Respondents generally rated the performance of the Weather Bureau highly. Overwhelmingly, the greatest reliance for warning was placed on radio and television.

KW: Case studies, prediction/warning, hurricane, evacuation.

199

M.S.I. Services, Incorporated. 1981. Public Requirements for Weather Information and Attitudes Concerning the Weather Service. National Weather Service NA-80-SAC-00654.

This report describes the work and results of a project to determine the public's requirement for weather information. A telephone interview survey of 1300 respondents provided the bulk of the data for this study. Some of the findings of the study should be of interest to risk communicators. T.V. and radio are the primary sources of weather information. Two-thirds of the respondents felt that weather reports contained about the right amount of information. Nearly 70% preferred numerical rather than verbal descriptions of probabilities as part of the forecast. Most respondents said they felt they knew the difference between a watch and a warning. Over 82% want weather forecasts from areas of the country other than their own.

KW: Case studies, severe storm, receiver perception.

200**

Nigg, Joanne M. 1982. Communication Under Conditions of Uncertainty: Understanding Earthquake Forecasting. Journal of Communication 32 (Winter): 27-36.

This article addresses the question of how media coverage relates to a community's information-seeking and information-exchange behavior when that community is faced with an unspecific warning of a widespread disaster. In particular, the author focuses on an earthquake prediction. Information exchange and information seeking pertaining to disasters involve four stages--awareness of the threat message, a heightening in interest, the arousal of concern, and threat evaluation and expert surveillance. The need for variety and the need to clarify ambiguous or confusing situations provide two different bases for explaining when and the degree to which people pay attention to news about earthquakes. Dramatic events (such as a new forewarning) are especially important for activating low-level and diffuse interest. To obtain more information, the individual engages in "surveillance" behavior that increases exposure to what is deemed pertinent information. The last step--contacting an expert--can be influenced by the media at all stages of disaster information seeking.

KW: Case studies, media studies, earthquake, group response, uncertainty.

201**

Palm, Risa. 1981. Public Response to Earthquake Hazard Information. Annals of the Association of American Geographers 71 (3): 389-399.

Consumer protection legislation has been based on the assumptions that people prefer to avoid risks and that they make rational decisions given a bounded field of information. The response of California home buyers to mandated disclosure of the location of earthquake fault zones was negligible. Some of the factors which diminished the effectiveness of this method of informing the general public about seismic hazards include: poor credibility of the real estate agent as a source of environmental information, the possible role conflict of the real estate agent in both selling property and protecting prospective buyers, lack of understanding about the hazard zones, emphasis home buyers place on the house as a financial investment, and the widespread belief that there are few alternatives.

KW: Case studies, earthquake, disclosure studies, legislation/regulation, source credibility.

202

Palm, Risa. 1985. Geography and Consumer Protection: Housing Market Response to Earthquake Hazards Disclosure. Southeastern Geographer 25: 63-73.

This article analyzes earthquake hazard disclosure legislation, and finds in the case of real estate laws in California that required disclosure is often ignored, and that the message is so weakened by the channel (in this case real estate appraisers and agents) that it had little impact on home prices or buyer behavior. This appears to be a good example of a case in which the communication process is used to alter the impact of the message.

KW: Disclosure studies, earthquake, dissemination, message channel, legislation/regulation, economic impact, case studies.

203

Perry, Ronald W., and Marjorie R. Greene. 1983. Citizen Response to Volcanic Eruptions: the Case of Mt. St. Helens. New York: Irvington Publishers, Inc. 145 pp.

Using the results of two studies of citizen response to the eruption of Mt. St. Helens, this study documents human response and factors important in individuals' decisions to undertake protective actions when a volcanic eruption threatens. Topics discussed in the study that the risk communicator may find helpful include: sources of general information about the volcano, citizen beliefs regarding protective actions, awareness and obtainment of emergency preparedness information, sources and evaluation of information while the eruption was in progress, and warning belief and response.

KW: Case studies, volcano, receiver perception, individual response, emergency communication.

204

Perry, Ronald W., Michael K. Lindell, and Marjorie R. Greene. 1982. Threat Perception and Public Response to Volcano Hazard. The Journal of Social Psychology 116 (April): 199-204.

This article examines perceptions of the threat posed by a volcano in Washington. Interest is focused upon the level of perceived risk, the sources and frequency of information receipt, and the level of confidence of the affected population regarding the adequacy of the information received. A probability sample of 230 citizens was taken from seven communities situated near Mt. St. Helens, Washington, which resumed activity in March 1980 after a 123 year dormant period. The data analyses indicate that intensive dissemination of hazard information during a short

period of imminent threat of disaster sensitized people to the pending event.

KW: Case studies, volcano, receiver perception.

205**

Ressler, Everett M. 1979. Observations on the Development of Educational Materials Following the Andhra Pradesh Cyclone, 1977. Disasters 3 (3): 283-285.

This report provides some preliminary results from a small sample of villagers on the effectiveness of certain types of drawings for use in the development of cyclone educational materials. Some of the suggestions for future materials include: 1) houses should be portrayed proportionally correct; 2) details should be accurate; 3) color could be used to avoid ambiguity in line drawings, although the color used should be the actual color of the object depicted; 4) pictures cannot convey all information, thus words are necessary for clarification; 5) only one picture per page should be employed; 6) quality paper should be used to lengthen the life-span of materials; 7) drawings not relevant to proposed recipients should be removed; and 8) each picture should carry a positive message.

KW: Case studies, hurricane, message content, education.

206**

Sandman, Peter M., Neil D. Weinstein, and M.L. Klotz. 1987. Public Response to the Risk from Geological Radon. Journal of Communication 37 (3): 93-108.

An analysis of reactions to naturally occurring radon (especially as compared to technologically produced radon) in New Jersey suggests that successful risk communication must bridge the gap between focusing on hazard information and using the potential for public "outrage" as an important motivation to action. In their focus on hazard value, the public tends to overestimate the hazard of high outrage risks and underestimate the hazard of low outrage risks. Risk managers need to find more effective ways to teach the public to attend more to hazard value than outrage value. Furthermore, experts must stop thinking that the public reaction to risk is irrational or unpredictable just because it is based more on outrage than on hazard.

KW: Case studies, receiver perception, radon.

207

Schware, Robert. 1982. Official and Folk Flood Warning Systems: An Assessment. Environmental Management 6 (3): 209-216.

This study examines some socio-economic constraints on the communication of flood warning messages in West Bengal, India. It then looks at perceptions of, and responses by, villagers in a flood prone area of West Bengal to official and folk flood warnings. Warnings were often expressed in volume of water released from upstream dams, but did not indicate the geographic area likely to be inundated. The police were found to be important channels for transmission of flood warnings but depending on their own perception, goals, or ignorance would occasionally delay the conveyance of a message. While the folk communication system, for the most part, complemented the official network, it is perceived to have a high source credibility by local villagers. Finally, interviews revealed that partisan attitudes played a role in the dissemination of warnings.

KW: Case Studies, flood, message channel.

208

Sims, John H. and Duane D. Baumann. 1972. The Tornado Threat: Coping Styles of the North and South. Science 176 (4042): 1386-1392.

The authors note that more tornado deaths occur in the south, yet the actual number of tornadoes and population at risk is greater in the north. Using surveys of Illinois and Alabama residents, the study suggests that it is psychological parameters and beliefs that ultimately influence a person's response to a warning. For example, many of the respondents from Illinois, who believe that they direct their own lives and what they do affects their futures, will go about confronting the possibility of a tornado in a characteristic style. They tend to use their heads and available technology, and take action. On the other hand, many of the Alabama respondents, who believed that God, fate or luck controls their lives, have less confidence in their own actions and their ability to effect change; they confront a tornado in a manner consistent with their attitudes. They place less trust in man's communal knowledge and await the fated onslaught. While this particular study may, by now, be outdated, risk communicators should heed its message, that beliefs, attitudes and values significantly affect a person's understanding and response to a warning.

KW: Case studies, tornado, group response.

209

Sorenson, John H. 1981. Emergency Response to Mount St. Helen's Eruption: March 20 to April 10, 1980. Natural Hazards Research Working Paper #43. Boulder, Colorado: Institute of Behavioral Science, University of Colorado.

The situation in the weeks previous to the cataclysm of May 18th provided a rare opportunity to study the methods used by public officials and decision makers to assess the risk of eruption and potential damages, and the ways in which they warned the public. This working paper identified the key actors and organizations in the response, traces the information flow among those actors and from them to the public, indicates persistent problems faced by emergency personnel, and analyzes how all affected parties perceived and estimated the risks from a future eruption. Conclusions indicate that: 1) the USFS's strong response to the impending eruption facilitated a coordinated response and reduced confusion; 2) much of the communication process was one-directional; 3) rumor was not a major problem; 4) most local and state agencies and organizations were poorly prepared to respond to the eruption despite prior USGS hazard studies; and 5) the experience gained in the non-disaster phase of the eruption was instrumental in preparing officials and some of the public for the May 18th explosion.

KW: Case studies, volcano.

210**

Sorensen, John H. 1983. Knowing How to Behave Under the Threat of Disaster: Can It Be Explained? Environment and Behavior 15 (4): 438-457.

The widely held belief that providing people with information and education on natural disasters will reduce losses is examined in this paper. Results of an empirical study to ascertain the relationship between information, education, and knowledge about adaptive responses in a threatening situation are presented. Findings indicate a poor statistical relationship between knowledge and a number of explanatory factors suggested by previous research. The study indicates that the process of acquiring information on hazards is variable among individuals and poorly understood. Overall, the ways in which people learn about hazards appear to be as fragmented as existing policies to disseminate hazard information.

KW: Case studies, earthquake, tsunami, hurricane, group response.

211

Stewart, Thomas R., Richard W. Katz, and Allan H. Murphy. 1984. Value of Weather Information: a Descriptive Study of the Fruit-Frost Problem. Bulletin of the American Meteorological Society 65 (2): 126-137.

This paper reports some results of a descriptive study of the value of weather information used by fruit growers in the Yakima

Valley of central Washington to decide when to protect their orchards against freezing temperatures. Specifically, the study provides data concerning the decision-making procedures of individual orchardists, the growers' use of weather information (including frost forecasts), and the dimensions of the value of such forecasts. Results from the descriptive study regarding the orchardists' information-processing and decision-making procedures are compared with the procedures included in a previous prescriptive study of the same area done by one of the authors. Some implications of this study for the further development of prescriptive models of the decision-making process in the fruit-frost context and in other weather-information-sensitive contexts are discussed.

KW: Case studies, probabilities.

212

Vining, Kevin C., C. Arden Pope III, and William A. Dugas, Jr. 1984. Usefulness of Weather Information to Texas Agricultural Producers. Bulletin of the American Meteorological Society 65 (12):1316-1319.

The purpose of this paper is to report findings of a mail survey given to 900 Texas farmers and ranchers asking them to rank the importance of various agrometeorological information types to their operations and assessing their willingness to pay for weather information. Most producers ranked as important those information types commonly broadcast over public media. Few producers would be willing to pay for weather information. Comments indicated a distrust of weather data, especially forecasts.

KW: Case studies.

213

Vitek, John D. and Susan M. Berta. 1982. Improving Perception of and Response to Natural Hazards: the Need for Local Education. Journal of Geography (Nov-Dec): 225-228.

This paper is a report on surveys conducted in Flint, Michigan that recorded residents perception of local natural disasters, adequacy of local natural hazard education in grades K-12, and the government's role in improving awareness of natural hazards. Those who had personal experience with tornadoes were only slightly more familiar with hazard education in the city's schools than those with no experience. Neither formal education about natural hazards nor experience motivated the survey respondents to become familiar with local hazard education programs. While most respondents suggested that the government develop hazard education programs, they failed to recognize the educational function of the

local Civil Defense Unit. Reliance upon experience for information about hazardous events is unacceptably risky because they occur infrequently. Coordination of an adult education program on natural hazards would be a logical and worthwhile activity for the Federal Emergency Management Agency (FEMA).

KW: Case studies, receiver perception, education.

214

Waterstone, Marvin. 1978. Hazard Mitigation Behavior of Urban Flood Plain Residents. Natural Hazards Research Working Paper # 35. Boulder, Colorado: University of Colorado, Institute of Behavioral Science. 60 pp.

This paper reports findings of a survey of selected flood prone communities in the Denver metropolitan area. Prior hazard experience, hazard awareness, and hazard information were examined to determine which factors were most significant in explaining mitigation behavior. One major focus of the study was to evaluate the effectiveness of a flood hazard information brochure which had been prepared and distributed by the Denver Urban Drainage and Flood Control District. The brochure generally heightened awareness of the flood hazard and seemed to motivate mitigation behavior. However, the study also showed that a year after the brochures were disseminated, only one-third of the respondents remembered receiving them. Specific recommendations for improving the content of the brochure include: 1) making the map more useful and understandable; 2) specifying clearly on the brochure that it is being distributed only to those who live in the floodplain; 3) provide a history of flooding in particular drainages and a description of maximum levels reached; 4) furnishing flood insurance information; 5) discussing the fact that the occurrence of one flood does not alter the probability of another in the same area; 6) clarifying the definition of a 100-year flood and the 100-year flood plain; and 7) providing a comprehensive list of mitigation actions that individuals can take.

KW: Case studies, flood, message content, individual response, effectiveness.

215

Wenger, Dennis E., Thomas F. James, and Charles E. Fauple. 1980. Disaster Beliefs and Emergency Planning. Disaster Research Project, University of Delaware. 170 pp.

The primary focus of this study is to assess the degree of accurate public knowledge about disaster behavior in communities with substantial disaster experience. Officials of emergency-relevant organizations are also surveyed for their knowledge, beliefs, and attitudes about natural disasters. The authors

recommend that local officials include public education programs as part of an institutionalized, routinized program of disaster planning. As part of this the program should contain information on the social myths of disasters. Enlightenment of a "critical mass" of local residents can result in the distribution of this information to others via interpersonal networks. Since the mass media are the most salient sources of disaster knowledge they should also be part of any communication campaign. Officials should recognize that a majority of residents hold inaccurate beliefs about the social aspects of disaster. Thus, attempts to mitigate the existence and effects of these myths should be included in the set of emergency tasks undertaken by local officials. Interpersonal communication is not a salient source of hazard information for officials. It is necessary, therefore, to develop a local critical mass of emergency officials who interact and discuss their concerns on a regular basis.

KW: Case studies, tornado, hurricane, flood.

216**

Windham, Gerald O., Ellen I. Posey, Peggy J. Ross, and Barbara G. Spencer. 1977. Reactions to Storm Threat During Hurricane Eloise. Social Science Research Center Report # 51, Mississippi State University. 74 pp.

A sample of 378 households were interviewed in the Destin-Fort Walton and Panama City Beach areas in Florida after Hurricane Eloise, which struck on September 23, 1975. Data were gathered on personal and social characteristics, perceptions of the warning system, and perceptions of danger from the storm. Risk communicators should find the study's discussion of "leavers and stayers" helpful in targeting groups. The typical leaver was influenced by official sources and was more concerned with personal and family safety than with possible property damage. Leavers depended on both local radio and TV, which were considered effective sources. Generally, leavers were avid television news fans. Stayers were more often property owners or businesspersons, had a higher educational attainment, and were not newcomers to the area. These people were less likely to be influenced by weather bulletins, messages from public officials, and messages from friends and relatives. Stayers were more likely to be dissatisfied with the information given and the warning system, and may have desired more frequent messages. Stayers tended to be slightly less knowledgeable of warning terms and wind and tide predictions.

KW: Case studies, hurricane, receiver perception, individual response, evacuation.

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