International Disaster Communications:

Harnessing the Power of Communications to Avert Disasters and Save Lives

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The Media and Disaster Reduction: Roundtable on the Media, Scientific Information and Disasters at the United Nations World Conference on Natural Disaster Reduction

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In the face of extraordinary and increasing human and economic costs of natural disasters, the United Nations designated the 1990s as the International Decade for Natural Disaster Reduction (IDNDR). Initiated by Dr. Frank Press, then-President of the U.S. National Academy of Sciences, the IDNDR explicitly recognized that humankind possesses the means to reduce the impact of disasters—to save lives and reduce damage to property.

Effective, reliable communications are vital to disaster reduction and an important focus of the IDNDR. Communications technologies, skills, and media are essential to link scientists, disaster mitigation officials, and the public; educate the public about disaster preparedness, track approaching hazards; alert authorities; warn the people most likely to be affected; assess damage; collect information, supplies, and other resources; coordinate rescue and relief activities; account for missing people; and motivate public, political, and institutional responses.

The vital role of communications in all phases of disaster mitigation was highlighted at the recent World Conference on Natural Disaster Reduction, May 23-27, 1994, in Yokohama, Japan. The Conference—the largest disaster-related meeting ever, with more than 5,000 participants and delegations from 148 countries—was the key mid-decade event in the IDNDR and the first United Nation's event in which the Republic of South Africa participated

In addition to discussions throughout the Conference and in the final report concerning the importance of communications, the World Conference featured the Roundtable, THE MEDIA, SCIENTIFIC INFORMATION AND DISASTERS, *organized by The Annenberg Washington Program, in cooperation with the IDNDR Secretariat in Geneva. At the Roundtable, senior journalists, relief officials, and scientists explored the involvement of the media in disaster mitigation and practical means for improving relationships among the media, disaster relief and scientific communities. This report is based on the Roundtable and the wide range of related discussions at the World Conference.*

The Growing Threat of Natural Hazards

The number and impact of natural disasters are increasing at a dramatic rate. Between 1963 and 1967, the world experienced 16 disasters that took the lives of 100 or more people and 89 disasters that caused damage of 1 percent or more of national GNP of the countries affected. Twenty-five years later, between 1988 and 1992, the world experienced 66 disasters that killed 100 or more people and 205 that cost 1percent or more of national GNP. Over three million people have been killed by disasters in the past two decades. In constant (1990) dollars, the total economic cost of natural disasters has tripled in the last 30 years, from $40 billion in the 1960s to $120 billion in the 1980s. In the first three years of the 1990s, natural disasters caused more than $85 billion in economic losses, and the figures continue to increase.

Although 90 percent of all people affected (95 percent of all people killed) by natural disasters live in the developing world, more developed countries are not immune from this deadly trend. In the United States, insurance payouts from natural disasters since 1990 already have more than quadrupled payouts for all of the 1980s. The actual economic cost of natural disasters occurring in the United States in 1993 and the first three months of 1994 is expected to exceed $100 billion—more than the nation's investment in research and development during the same period.

The Focus on Disaster Prevention and Mitigation

As recognized in the *Yokohama Strategy and Plan of Action for a Safer World*, adopted by the World Conference on Natural Disaster Reduction, many of these costs—both in terms of lives lost and property destroyed—could be avoided:

> *Natural disasters continue to strike and increase in magnitude, complexity, frequency and economic impact. Whilst the natural phenomena causing disasters are in most cases beyond human control, vulnerability is generally a result of human activity. Therefore, society must recognize and strengthen traditional methods and explore new ways to live with such risk, and take urgent actions to prevent as well as to reduce the effects of such disasters. The capacities to do so are available.*

Dr. Frank Press, who was acclaimed an Honorary Vice President of the World Conference in recognition of his role as the founder of the International Decade for Natural Disaster Reduction (IDNDR), has written: "Disasters are tragic, not only because of the great losses to the victims, but also because they are often avoidable. The means to reduce disasters' toll and ensure a safer future are available." Science and engineering provide effective, reliable means of identifying hazard-prone regions, predicting most natural hazards, and significantly protecting people and property from the fury of earthquakes, floods, winds, landslides, avalanches, cyclones, tsunamis, locust infestations, drought, and volcanic eruptions.

In short, natural hazards do not have to result in natural disasters. As Vice President Al Gore has noted: "Natural *hazards* are inevitable. They represent the earth's normal way of doing business. . . . Natural *disasters* are determined as much or more by societal behavior and practice as by nature *per se*. They can and should be reduced." Disaster reduction takes many forms. It may involve discouraging building in hazard-prone

regions, such as flood plains, or investing in hazard-resistant building styles and materials, such as flat roofs in high wind areas. Most disaster prevention and mitigation, however, involves assuring effective, reliable communication.

The Central Roles of Communications in Disaster Reduction

Communication plays many vital roles in disaster reduction. While they often overlap, these roles may be divided into five broad categories: Technical communications systems, such as satellites, remote sensing devices, and computer networks, and other technology-based communication systems research, predict, track, and provide early warning of natural hazards. Disaster site communications maintain links with disaster response officials, the government, affected populations, and sources of emergency relief supplies. Organizational communications are essential for the effective, dependable operation and interaction of private, governmental, and multinational disaster prevention and relief organizations. Communication for scientific development and policy formation, between scientists, engineers, government officials, other disaster response officials, insurers, the media, and the public develop our knowledge of natural hazards and how to keep them from becoming disasters. Public education and communication—through electronic and print media, wired and cellular telephones, and alternative media—educate the public about natural hazards and disaster prevention, warn of approaching hazards, and facilitate participation in public discussions about disaster preparedness and response.

Each of these uses of communications in response to disasters has attracted the attention of scientists, disaster relief officials, and communications specialists. Technical communications systems, disaster site communications, and organizational communications, in particular, have been the subject of ongoing international discussions and reports, a number of which are reprinted elsewhere in this volume. The importance of communications in disaster mitigation has played a significant role in the IDNDR. One of the earliest meetings on communications and disasters in the 1990s was the International Conference on Disaster Communications, convened by the United Nations Disaster Relief Coordinator in Geneva, March 19-21, 1990, and funded by the Federal Republic of Germany. Stephen Rattien, whose contribution to The Annenberg Washington Program's report, *Communication When It's Needed Most: How New Technology Could Help in Sudden Disasters*, captured the theme of these many discussions when he wrote that communications are "central" to the effort to "save many lives and reduce human suffering, dislocation and economic losses" in the face of disasters. Dr. Rattien, now Executive Director of the National Academy of Sciences Commission on Geosciences, Environment and Resources, concluded: "Mass communications is inextricably entwined with disasters and hazard mitigation."

The Role of the Media in Disaster Mitigation: Roundtable on the Media, Scientific Information and Disasters

Complementing the focus of earlier meetings and publications on the importance of technical communications systems, disaster site communications, and organizational communications in disaster preparedness and response, the World Conference on Natural Disaster Reduction and the Roundtable on the Media, Scientific Information and

Disasters addressed the vital roles of communications among and between scientists, engineers, government officials, disaster response officials, and particularly the media and the public in disaster mitigation.

◆ *Effective Communication*

The Roundtable participants sounded two themes that dominated the entire conference: disaster prevention, rather than merely response, and the importance of individual action to mitigate the impact of natural hazards. The participants stressed that "timely, accurate and sensitive communications in the face of natural hazards are demonstrated, cost-effective means of saving lives, reducing property damage, and increasing public understanding. Such communications can educate, warn, inform and empower people to take practical steps to protect themselves from natural hazards."

Participants in the Roundtable and the Conference offered many impressive examples where public education and the rapid, widespread dissemination of early warnings saved thousands of lives. In November 1970, for example, a tropical cyclone, combined with a high tide, struck southeastern Bangladesh, leaving more than 300,000 people dead and 1.3 million homeless. In May 1985, a comparable cyclone and storm surge hit the same area. "This time," according to IDNDR Director Dr. Olavi Elo, "there was better local dissemination of disaster warnings and the people were better prepared to respond to them. The loss of life, although still high, was 10,000 or about 3 percent of that in 1970." When a devastating cyclone struck the same area of Bangladesh in May 1994, fewer than 1,000 people died. The dramatic difference, according to Roundtable participant Mohammed Saidur Rahman, Director of the Bangladesh Disaster Preparedness Centre, was a new early-warning system that allows radio stations to alert people in low-lying areas. According to Mr. Rahman, "wonderful work was done by the media."

Hurricane Gilbert, which hit Jamaica in September 1988, was one of the worst storms in the island's history. The storm had been tracked, however, by the Regional Hurricane Center in Miami and by national meteorological services in the area. They predicted Gilbert's path and issued timely warnings to relief officials and the public. The result, according to the World Meteorological Organization, was a much lower death toll than when a similar hurricane struck in 1951, despite the fact that the population of Jamaica had doubled in the meantime. In addition to the technical communications systems that provided early warnings, IDNDR Director Elo noted, "Jamaicans had better knowledge of areas at high risk from flooding. There was also a widespread public awareness that a lot could be done to avoid loss of life and damage."

Fifteen years ago, there were advanced warnings for only 45 percent of tornados. Today, the figure is 89 percent and growing. In the United States, 1,400 people lost their lives from tornados between 1950 and 1959. Between 1983 and 1992, the death toll dropped to 521. According to the World Meteorological Organization, this trend, which applies to hurricanes and cyclones as well, is the direct result of, among other achievements, "advancements in communications technologies." Commenting on the dramatically different impacts of a 1977 cyclone in Andra Pradesh, India, which killed 10,000 people, and a similar storm in the same area 13 years later, which killed 910, the IDNDR Secretariat concluded: "Emergency preparedness and early warning measures save lives and money. . . . There [is] no reason to be fatalistic."

These and many other examples make clear that media throughout the world play a vital role in educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, relief organizations, and the public to specific needs; and facilitating discussions about disaster preparedness and response.

For the media to fill these roles most effectively, the scientific and disaster mitigation organizations need to establish and strengthen working relationships with the media. Peter Hansen, United Nations Under-Secretary General for Humanitarian Affairs, challenged disaster mitigation organizations to "act to sensitize the media" and to "make ourselves a reliable source of usable information for journalists." Many of the Roundtable participants stressed the importance of providing reliable information to the media, as early as possible, in a concise and readily understandable form, and linked where possible to newsworthy events. "If you don't tell us about a story," commented Roundtable participant Larry Register, Senior International Editor for CNN, "we can't cover it."

Terry Jeggle, Director of the Asian Disaster Preparedness Center in Bangkok, stressed the importance of creating and taking advantage of mechanisms for journalists and disaster mitigation officials to spend more time together and learn about each other's work. Regular, routine interaction, before a disaster strikes, lays the groundwork for effective working relationships in the aftermath of a disaster. Moreover, the experience, sensitivity, and trust that such contact facilitates contributes to the quality and focus of media coverage relating to disasters.

Many of the participants at the Roundtable stressed the need for the disaster mitigation community and those associated with the IDNDR to identify specific themes to convey to the media and the public. One vital factor in effective communications is the creation and repetition of precise, effective messages, both through the mass media and in other alternative forms of communication. Such messages can empower people to take practical steps to protect themselves from natural hazards and to demand attention by private and governmental organizations to disaster prevention, mitigation, and response. For example, Lawrence Grossman, member of the U.S. Delegation to the World Conference, President of Horizons TV, and former president of NBC News and PBS, suggested developing a collection of simple, consistent, readily understandable icons providing instructions for disaster preparedness. Like the widely recognized traffic icons, emergency exit indicators, or "no smoking" signs, these would provide specific warnings (*e.g.*, tornado watch; high winds warning), or instructions (*e.g.*, move to higher ground; take cover).

Effective working relationships require the media, NGOs (non-governmental relief or development organizations), scientists, government agencies and international organizations to recognize that, while they have much in common, they also often have distinct objectives and needs. Many participants noted the importance of recognizing those differences and of working together to explore ways of helping meet each others' needs. It is also important to recognize differences among media (print vs. broadcast, radio vs. television, domestic vs. international, *etc.*) and to take into account their distinct characteristics, potential, and needs. Participants also noted that the media and relief organizations at times, and appropriately, challenge each other and ask difficult, penetrating questions.

After all, said one Roundtable audience member, "it is through the media that the agencies are accountable to the public."

◆ *The Focus and Impact of Media Coverage and Public Communications by Agencies*

Many participants expressed hope that disaster mitigation organizations would focus more of their public information efforts, and that the media would focus more of its coverage, on disaster prevention and reduction, instead of loss of life and damage to property. Both disaster mitigation agencies and the media, for example, should identify and communicate to the public specific measures that have either succeeded or failed to reduce the impact of natural hazards. James P. Bruce, Chairman of the IDNDR Scientific and Technical Committee, noted that he worries about the public and media "obsession with death and dying." A news story about the damage inflicted by a cyclone, for example, could just as easily include information about the types of structures that survived and those that did not.

Ferruccio Ferrigni, Director of Programmes at the European University Centre for Cultural Heritage, stressed the opportunities for interesting, important news stories both before and long after disasters, as well as in the immediate aftermath of a disaster "event," where most media attention is now focused. Similarly, most disaster prevention and response is local. Although many people mistakenly believe that international aid funds most disaster relief, Dr. Elo has noted that "international aid seldom exceeds 4 percent of the economic loss." "It is important," Dr. Ferrigni concluded, "for the media to report how the people solved their own problems."

The absence of such stories has a demonstrable impact on the recognition by government officials and the public that there is much that can be done to protect both lives and property before and during a natural disaster. In his opening address to the World Conference, Dr. Elo stressed:

> *Societies are so overwhelmed by human emergencies, by human disasters, that we have halted in our tracks, as it were, on the road to progress and development, to stand helplessly by, paralyzed, watching so many human tragedies unravel before our eyes. We are not helped by how the priorities are perceived in the eyes of the media: human misery is far more news-worthy than a population that has been made safe and sound. In short, an earthquake or flood that does little or no damage is not news.*

Many times the links between important information and stories that appear "newsworthy" in the eyes of the media and the public are difficult to establish, as suggested by a report at the World Conference from the U.N. Food and Agriculture Organization (FAO). "When images of tortured starving faces and the bloated bellies of dying children lead the nightly news, the world rushes food and assistance to the hungry. As the food aid arrives, it feeds the news as well as the starving." Despite the impression that many western observers share that Africa is "a continent of recurring famine," the FAO report continued, it is drought, not famine, that is Africa's "principal natural disaster. . . . Famine is not the necessary outcome of drought. There are proven strategies to reduce the effects of drought and prevent even the most vulnerable populations from starving."

In 1992, for example, 12 southern African countries were hit by a drought that caused greater crop failure than Ethiopia, the Sahel, and the Horn of Africa faced in 1984-85. But a rapid response by the countries involved, as well as international organizations such as the FAO, prevented that drought from causing famine. "The unprecedented early response prevented a famine and as such a major news story." What went largely unreported, the FAO concluded, was the "story about millions who could have died but did not."

In addition to concern about information that needs to reach the public but does not, some participants expressed concern about the impact of the information that does reach the public. Peter Walker, Director of the Disaster Policy Department of the International Federation of Red Cross and Red Crescent Societies, urged that new attention be paid to the impact of the images of disaster relief activities portrayed through the media. Dr. Walker had participated the previous year in a project examining the effects of media coverage of disaster relief sponsored by The Annenberg Washington Program. Senior officials from the American Red Cross, BBC, CARE, CNN, the International Broadcasting Trust, the International Federation of Red Cross and Red Crescent Societies, U.K. Overseas Development Administration, NPR, Save the Children, and other leading media and relief organizations met in Washington and London to consider practical, specific strategies for both the media and relief organizations to improve the accuracy, timeliness, quality, and cost-effectiveness of the information they disseminate about developing countries. The project's final report, *Media, Disaster Relief and Images of the Developing World*, written by Annenberg Senior Fellow Fred H. Cate, convener of the Yokohama Roundtable, underscored the issues raised by Dr. Walker:

> *Much of the public throughout the industrialized world shares an image of developing countries that is incomplete and inaccurate. The efforts of the media to alert the public and report the news accurately and promptly, and of relief organizations to motivate public and governmental support and save human lives, inadvertently contribute to this image. Because western audiences often lack knowledge of developing countries, reports of exceptional events, such as famines or floods, may foster misimpressions of the developing world.*

At the Roundtable, Dr. Walker stressed that this is not an issue just for the media. Relief agencies routinely convey images through the media in an effort to motivate support, raise money, or increase their own visibility. Each relief organization should ask itself, Dr. Walker said, "Is the image you portray at odds with what your organization is trying to do?" Many of the participants at the Roundtable stressed that there is much disaster mitigation organizations can do directly, and in cooperation with the media, to help focus public attention on disaster preparedness and prevention and to avoid many of the unintentional consequences of the images used by and in the media. "The onus is on us," Dr. Walker concluded, referring to the responsibility of disaster mitigation organizations to be more aware of the ramifications of their public communications.

◆ *Alternatives to Media Coverage*

Coverage by established news media is not the only means for communicating with the public. Cooper Wright, Ecuador Project Director for the International Television Group of

Children's Television Workshop (CTW), described a broader-based approach to disaster preparedness. In cooperation with the Ministry of Education and Culture, the Ministry of Information and Tourism, the National Civil Defense Administration, the U.S. Office of Foreign Disaster Assistance-U.S. Agency for International Development, and Compañeros de las Americas, CTW has formulated and disseminated specific disaster preparedness and prevention instructions not only through Ecuador's cooperating television and radio stations, but also printed on soccer balls, coloring posters, and in coloring books. In addition to reaching communities that may be beyond the reach of mass media, the balls, posters, and books appeal more directly to children and provide a more interactive and entertaining educational mechanism. The most important aspect of CTW's Ecuador project, Wright stressed, is the "*process* of working with NGOs, media and production teams from within Ecuador."

Other participants noted the opportunities for disaster management organizations to create and air their own programming on cable television, public broadcasting stations, and satellite television. Some participants recommended exploring alternative formats to news coverage, such as educational or even entertainment programming. Morrie Goodman, Director of Emergency Information and Public Affairs for the U.S. Federal Emergency Management Agency (FEMA), noted that FEMA and the American Red Cross had worked together to develop "Disaster Dudes," a show for children providing educational messages about disaster preparedness. During the 1994 Los Angeles earthquake, FEMA distributed information directly to the public as an insert called *Disaster Times* in the *USA Today* newspaper. Potential partnerships may exist outside of the media and disaster mitigation agencies. The Japanese insurance industry, for example, spends the equivalent of $200 million per year on disaster education.

◆ *Outcome of the Yokohama Conference and Roundtable*

Having examined many challenging issues about the relationship by the media and disaster mitigation, the Roundtable issued seven recommendations for more accurate, timely, and cost-effective provision of information about natural disasters and the conditions that cause them. Those recommendations, which are attached, will be part of the final report from the conference.

In addition, the *Yokohama Strategy and Plan of Action for a Safer World*, adopted unanimously at the World Conference, reflects many of the key issues concerning the use of communications in anticipation of, and response to, natural disasters. For example, one of the ten principles identified in the *Yokohama Strategy* stresses that "[e]arly warnings of impending disasters and their effective dissemination using telecommunications, including broadcast services, are key factors to successful disaster prevention and preparedness."

In assessing the status of disaster reduction midway through the IDNDR, the *Yokohama Strategy* notes that:

> *Education and training programmes and facilities for people professionally involved and the public at large have not been sufficiently developed with a focus on ways and means to reduce disasters. Also the potential of the information media, industry, scientific community and the private sector at large has not been sufficiently mobilized.*

Therefore, in the strategies for the next century, the Conference has included significant attention to the role of communications, such as "improved risk assessment, broader monitoring and communication of forecasts and warnings," and "placing higher priority on the compilation and exchange of information on natural disaster reduction, especially at regional and subregional levels, through the strengthening of existing mechanisms and improved use of communication techniques."

In the Plan of Action, included in the *Yokohama Strategy*, the Conference has offered specific steps for more effectively using communications in response to natural disasters. Many of the recommended actions deal with predicting, tracking and providing warnings regarding natural hazards, for example, "[i]ncorporate cost-effective technologies in reduction programmes, including forecasting and warning systems" and "[Improve] the communications on natural disasters among the countries of the region in the context of preparedness and early warning systems."

The Plan of Action also addresses the important roles of the media and of public education:

> *Establish and implement educational and information programmes aimed at generating general public awareness, with special emphasis on policy makers and major groups, in order to ensure support for, and effectiveness of, disaster reduction programmes;*
>
> *Enroll the media as a contributing sector in awareness raising, education and opinion building in order to increase recognition of the potential of disaster reduction to save human lives and protect property; . . . .*
>
> *[Collect and disseminate] documentation and information to improve public awareness of natural disasters and the potential to reduce their impact.*

Finally, a number of the recommendations deal with organizational communications and communications for scientific development and policy formation: "Endeavour to document all disasters; . . . . [Improve] the exchange of information on disaster reduction policies and technologies; . . . . [Formulate] education and training programmes and technical information exchanges aimed at human resource development."

Conclusion

The International Decade for Natural Disaster Reduction and the World Conference have made clear that natural hazards do not have to become natural disasters. Humankind is not powerless when faced with the fury of nature. As Dr. Press has written, despite a dramatic increase in the number, severity, and complexity of these occurrences, "[t]he means to reduce disasters' toll and ensure a safer future are available."

The World Conference has demonstrated once again that communications technologies, skills, and media are an essential part of those means. They are, as stated in the recommendations from the Yokohama Roundtable, "demonstrated, cost-effective means of saving lives, reducing property damage, and increasing public understanding," irrespective of location, population, or level of economic development. "Such communications can educate, warn, inform and empower people to take practical steps to protect themselves from natural hazards."

The media play a unique role in disaster mitigation. Although the aims of the media and those of disaster mitigation organizations are not synonymous, without compromising the independence and integrity of either, much can be done to communicate to the public the information that will help many save their own lives.

The *Yokohama Strategy and Plan of Action for a Safer World*, the *Principles and Recommendations of the Roundtable on the Media, Scientific Information and Disasters*, and the continuing activities of the IDNDR are significant tools toward that end. In addition, The Annenberg Washington Program will continue to work with the United Nations, disaster mitigation organizations, and the media to facilitate more humane uses of communications to save lives, reduce damage to property and the environment, and increase public understanding in the face of natural disasters.

Principles and Recommendations of the Roundtable on the Media, Scientific Information and Disasters

Principles

1. Media throughout the world play a vital role in educating the public about disasters, warning of hazards, gathering and transmitting information about affected areas, alerting government officials, relief organizations, and the public to specific needs, and facilitating discussions about disaster preparedness and response.

2. Timely, accurate and sensitive communications in the face of natural hazards are demonstrated, cost-effective means of saving lives, reducing property damage, and increasing public understanding. Such communications can educate, warn, inform, and empower people to take practical steps to protect themselves from natural hazards.

Recommendations

3. Scientific and disaster mitigation organizations should seek to develop working relationships with the media based on mutual trust and the recognition of differing characteristics, goals, and needs. Regular, effective communication among these disparate groups, before, during, and after disaster "events" can greatly enhance those relationships.

4. Disaster mitigation organizations should seek to provide reliable information to the media, as early as possible, in a concise and readily understandable form, and linked, where possible, to newsworthy events.

5. Disaster mitigation organizations should seek to identify and communicate specific themes and messages, both through the mass media and in other alternative forms of communication.

6. Media and disaster mitigation organizations should take advantage of opportunities to work together, to provide relevant training for reporters and field personnel to enhance both disaster preparedness, mitigation and relief efforts and the timeliness, quality, and accuracy of reporting about natural hazards.

7. Media organizations should address disaster prevention and reduction in coverage relating to disasters. Disaster mitigation organizations and the media should identify and communicate to the public specific measures that have either succeeded or failed to reduce the impact of natural hazards.

8. Media organizations are encouraged to evaluate their reporting about natural hazards and disaster preparedness, and, where appropriate, to work with disaster mitigation organizations to improve the quality, accuracy, and thoroughness of such reporting

9. The IDNDR Secretariat should communicate the outcome of the Conference to the International Telecommunication Union and support ITU's efforts to develop an international Convention on Disaster Communications.

PARTICIPANTS IN THE ROUNDTABLE INCLUDED:

James P. Bruce, Chairman, IDNDR Scientific and Technical Committee, Ottawa ◆ Fred H. Cate, Convener, Senior Fellow, The Annenberg Washington Program, and Associate Professor of Law, Indiana University School of Law-Bloomington ◆ Ferruccio Ferrigni, Director of the Programmes, European University Centre for Cultural Heritage, Ravello, Italy ◆ Morrie Goodman, Director of Emergency Information and Public Affairs, Federal Emergency Management Agency, Washington ◆ Lawrence Grossman, Member of the U.S. Delegation to the Conference and President, Horizons Television; former President, NBC News and PBS, New York ◆ Terry Jeggle, Director, Asian Disaster Preparedness Center, Bangkok ◆ Mohammed Saidur Rahman, Director, Bangladesh Disaster Preparedness Centre ◆ Larry Register, Senior International Editor, CNN, Atlanta ◆ Peter Walker, Director of the Disaster Policy Department of the International Federation of Red Cross and Red Crescent Societies, Geneva ◆ Cooper Wright, Ecuador Project Director, Children's Television Workshop International Television Group, New York.

Communication When It's Needed Most

In 1988 The Annenberg Washington Program convened a study group of diverse experts in science, media, technical communications, and disaster management to consider the application of communications to disasters. Led by Annenberg Senior Fellow David Webster, the Annenberg International Disaster Communications Project released its preliminary papers—International Disaster Communications Initiatives for Greater Effectiveness in Mitigating Sudden Catastrophes—*in September 1988 at the International Institute of Communications annual conference in Washington, D.C. The final papers were published by the Program in May 1989 under the title* Communication When It's Needed Most: How New Technology Could Help in Sudden Disasters.