

Disaster Preparedness and Relief

Natural and human-caused disasters continue to be regular events in developing countries. Some of the original damage is avoidable; several of the items included here discuss low-cost ways to minimize damage to houses from earthquakes and hurricanes, for example. Some of the damage comes after the initial disaster, as water supplies are polluted and perhaps food supplies are interrupted. The relief efforts themselves can cause additional damage. This may happen if the basic food supply was not affected by the original disaster, and a sudden inflow of donated food distorts the agricultural produce markets. This kind of common event means a second economic disaster for the farmers.

The items reviewed here provide experienced management guidelines for maximizing the positive effects of disaster relief operations while minimizing the negative side effects. Public health measures, control of medical supplies, and housing reconstruction are major topic areas.

Shelter After Disaster, MF 35-833, book, 127 pages, by Ian Davis, 1975, £5.50 from Ian Davis, Disaster Management Center, Oxford Polytechnic, Headington, Oxford OX3 0BP, England.

This fascinating book points out many of the myths about disaster relief that continue to shape aid responses around the world. The author presents the

elements of successful shelter rebuilding programs in the light of historical experience over the past 300 years.

Worldwide the frequency and death tolls of disasters are rising, reflecting the increasing vulnerability of the poor primarily in the rapidly growing urban centers of the South. This is mostly because they are living in precarious circumstances on hillsides and waterfronts, where damage is likely to be greatest. The author notes that while there is an enormous quantity of post-disaster relief shelter design ideas, most of them are conceived without an understanding of the realities of post-disaster shelter needs. "The vast majority of these concepts mercifully have never left the drawing board or filing cabinet, but this seems no deterrent to the ingenuity and persistence of designers."

Following disasters around the world, local people using their own ingenuity and initiative have accomplished more than 80% of the reconstruction themselves, even in this age of rapid transport and communications. This matches the normal circumstances of the world's poor, where "development projects" are but a tiny part of local activity. The challenge to national and international agencies is thus quite similar in both cases: to make a genuine contribution by doing something that strengthens and extends what the people are going to do anyway on their own.

"Housing using low technology is more likely to come within the price range of disaster victims, it is probably better suited to local cultural patterns and climate, and it will probably generate local employment." Rubble from collapsed homes should not be cleared, except from roadways, as it is a primary source of building materials. Rebuilding begins almost immediately, and officially provided shelter (particularly oddly shaped houses) will be the least appealing to the people.

Although there are many examples of indigenous housing well-suited to resist the effects of typhoons and earthquakes, for example, these appear to have evolved over an extended time period. Rebuilding following a disaster is usually done in response to everyday needs—not the possibility of a repeat of the disaster in the far distant future. One of the most interesting housing projects in Guatemala is a retraining program that promotes "earthquake-proof construction techniques that use traditional materials and existing (though developed) construction skills. The result is that the traditional character of the houses is retained while the structure is made safe."

An important book, with implications for appropriate technology efforts. Well illustrated.

Building to Resist the Effect of Wind, Volume 1: Overview, MF 35810, booklet, 28 pages, by Richard D. Marshall, Noel J. Raufaste, Jr., and Stephen A. Kliment, U.S. National Bureau of Standards, 1977, publication no. C13.29/2:100-1, out of print.

First in a five-part series detailing the findings of a research project in wind-resistant housing, this overview summarizes the background, establishment, and activities of the project. Results of tests conducted in cyclone-prone areas in Jamaica, Bangladesh, and the Philippines over a three and a half year project are reported in the companion volumes. Thorough appendices of relevant organizations and references are included.

Building to Resist the Effect of Wind, Volume 2: Estimation of Extreme Wind Speeds and Guide to the Determination of Wind Forces, MF 35-811, booklet, 23 pages, by Emil Simiu and Richard D. Marshall, U.S. National Bureau of Standards, 1977, stock no. 003-003-01718-3, out of print.

This discussion of wind loads on buildings—including equations, tables, and diagrams—is sufficiently clear to be usable by people with only a moderate technical background. This is due, in part, to the summaries and conclusions in non-technical language. Does not include wind measurement techniques, but does contain an example which illustrates the application of this material.

Building to Resist the Effect of Wind, Volume 4: Forecasting the Economics of Housing Needs: A Methodological Guide, MF 35-812, booklet, 30 pages, by Joseph G. Kowalski, U.S. National Bureau of Standards, 1977, publication no. C13.29/2:100-4, out of print.

Following up emergency response shelter programs with well-considered reconstruction schemes requires thorough assessment of unmet housing needs. This volume offers a methodology for the analysis of factors contributing to housing shortfalls, including population growth, urbanization trends, cultural patterns, etc. Useful for planners in government and the major international organizations.

Building to Resist the Effect of Wind, Volume 5: Housing in Extreme Winds: Socio-Economic and Architectural Considerations, MF 35-813, booklet, 31 pages, by Stephen A. Klimont, U.S. National Bureau of Standards, 1977, publication no. C13.29/2:100-5, out of print.

A discussion of relevant cultural patterns and building practices in three cyclone prone regions (Jamaica, Bangladesh, and the Philippines) is integrated with architectural and planning considerations to present a very readable and interesting analysis of shelter in less developed countries. This last volume serves well as an overview of the process, as distinct from the product, of emergency shelter.

Economic Issues in Housing Reconstruction, MF 35-814, booklet, 11 pages, by Frederick C. Cuny and Paul Thompson, 1981, Intertect, Washington, D.C., out of print.

Issues and options for orderly recovery from disaster, avoiding undue disruption of development goals and additional market distortions, are presented in clear, non-technical terms. Very useful for project planners.

Emergency Health Management after Natural Disaster, Scientific Publication No. 407, MF 35-815, booklet, 67 pages, 1981, Pan American Health Organization, WHO, \$6.00 plus shipping from PAHO Publication Center, 49 Sheridan Avenue, Albany, New York 12210, USA.

Sound advice for managing disaster relief efforts of large agencies is presented in a clear, easily accessible text. Though claiming to be only an overview of general application, much detailed, specific advice on many topics ranging from management of mass casualties to food and nutrition, and training of non-professional health personnel (and much more) is included in this very useful

guide to disaster response. With annexes.
Recommended.

Emergency Vector Control after Natural Disaster, Scientific Publication No. 419, MF 35-816, booklet, 98 pages, 1982, Pan American Health Organization, WHO, \$6.00 plus shipping from PAHO Publication Center, 49 Sheridan Avenue, Albany, New York 12210, USA.

This companion text to the previous manual combines specific advice on controlling disease agents commonly encountered in disaster relief programs (particularly in tropical developing countries) with advice on program management and interagency collaboration. Annexes include a bibliography, sources for control substances, insecticide and rodenticide application regimes, and lots of required equipment.

Environmental Health Management after Natural Disaster, Scientific Publication No. 430, MF 35-817, booklet, 58 pages, 1982, Pan American Health Organization, WHO, \$6.00 plus shipping from PAHO Publication Center, 49 Sheridan Avenue, Albany, New York 12210, USA.

This manual provides planners and administrators of disaster relief health services with specific advice for establishing procedures and setting priorities for sanitation and water supply. The measures suggested involve the use of health professionals and non-professionals alike, and make use of widely available disinfectant chemicals.

Establishing Needs After a Disaster: Assessment, MF 35-818, booklet, 12 pages, 1981, Intertect, out of print.

Guidelines for setting priorities in emergency response including survey techniques (sample forms provided), a list of relevant international agencies, and a list of further references. A quick-access resource for field staff and administrators.

How to Build a House of Modern Adobe (Construyendo con Adobe), MF 35-819, booklet, 46 pages, Oficina de Investigacion y Normalizacion, 1976, \$2.50 plus postage from ININVI, Av. Alfredo Mendiola 4203, Previ, Naranjao, Distrito Los Olivos, Lima 31, Peru.

This step-by-step guide to adobe home construction is an excellent resource for improving the product of indigenous builders. Includes design considerations for earthquake and high wind resistance. Used together with **Improving Building Skills** (reviewed in this section), this pamphlet is a valuable resource for optimizing structure strength, life-span, and resistance to natural disasters.

Recommended.

Improving Building Skills (Mejores Viviendas de Adobe), MF 35820, booklet, 33 pages, by A. Andia and A. James Viets, Oficina de Investigacion y Normalization, Ministerio de Vivienda y Construccion, San Martin De Porres, Lima, Peru, out of print.

A clear and well-illustrated presentation of salient points of low-cost housing using block construction (adobe brick, stabilized earth, etc.) on stone foundations with timber truss roofs. Considerations for earthquake and high wind resistance are included in a format suited to non-formal education. Highly recommended for regions where block construction is a practical option.

The Management of Nutritional Emergencies in Large Populations, MF 35-821, book, 98 pages, by C. de Ville de Goyet, J. Seaman, U. Geijer, 1978, stock no. 1150154, \$12.80 from WHO; also available in French.

Emergency nutritional care, while closely allied with emergency medical efforts, is often carried out by non-professionals. This booklet contains practical guidelines which are to the point. It should be a valuable resource for volunteers and fieldworkers in disaster response. The text is not intended for long-term nutritional care, reconstruction policy following disasters, or preventative measures. Rather, it is focused on the immediate response following a disaster, with an emphasis on adaptability and improvisation. Very useful.

Medical Supply Management after Natural Disaster, Scientific Publication No. 438, MF 35-822, book, 135 pages, 1983, Pan American Health Organization, WHO, out of print.

Detailed, specific advice for top-level administrators of disaster relief efforts primarily in the area of medical supply management. Includes treatment schedules, a brand name cross-index of common pharmaceuticals, storage requirements, sample management and order forms, international symbols, and a list of essential drugs. With references. Very useful.

Minimum Standards for Cyclone-Resistant Housing Utilizing Traditional Materials, MF 35-823, booklet, 44 pages, 1981, Intertect, Washington, DC, out of print.

Considerations for siting, design, and construction of cyclone-resistant single family housing in a number of common building materials are presented in a clear, non-technical manner. Applicable to earthquake-resistant construction as well.
Recommended.

Minimum Standards for Earthquake-Resistant Housing Utilizing Traditional Materials, MF 35-824, booklet, 23 pages, 1981, Intertect, Washington, DC, out of print.

Design criteria for building earthquake- and wind-resistant housing in a variety of traditional materials is presented in clear, non-technical text. While intended for the staff of housing reconstruction programs, the information should prove useful in a number of applications where optimum strength and durability of structures using traditional construction materials is desired.

Program Planning Guide, MF 35-825, booklet, 20 pages, Intertect, Washington, DC, USA, out of print.

The considerations for establishing a successful relief or reconstruction program— including strategies, management, policy, staffing, budgeting, monitoring, evaluation, etc.—are followed by a discussion of commonly encountered problems and failures in the field. Includes sample forms for emergency operations monitoring.

Program Planning Options for the Reconstruction of Disaster Resistant Housing, MF 35-826, booklet, 10 pages, Intertect, Washington, DC, USA, out of print.

Advantages and disadvantages of six options for emergency shelter are covered in clear and concise terms, providing a valuable and accessible decision-making resource for fieldworkers and disaster relief administrators.

Shelter after Disaster: Guidelines for Assistance, MF 35-828, book, 82 pages, 1982, from UNDRRO, United Nations, New York, New York 10017, USA.

This guide for relief organizations and governmental agencies sets down principles and offers advice on procedures for providing shelter for emergency victims. Most notable is the emphasis on self-help and the observation that housing is a process inseparable from local custom and not a product to be dispensed without regard to local conditions, cost effectiveness, and its effect on the long-term development efforts of the recipient country or national group. Each chapter/topic concludes with explicit policy guidelines that, with the numerous examples cited, should prove very useful for fieldworkers and administrators of disaster relief. With appendices and reference lists.

Recommended.

United Nations High Commissioner for Refugees Handbook for Emergencies, Part I: Field Operations, MF 35-829, book, 194 pages, 1982, available also in French and Spanish, free from Emergency Unit, United Nations High Commissioner for Refugees, Palais des Nations, CH-1211 Geneva 10, Switzerland.

Long experience in managing the influx of refugees resulting from emergencies is apparent in this manager's guide for relief work. Several chapters relevant to inter- and intra-agency protocol are followed by very thorough, practical discussions of refugee management, especially the establishment of camps, which is considered an option of last resort. Involvement of the refugees in decision-making and implementation is stressed throughout, as is the need to preserve past social arrangements, use local skill and materials, respect local cultural patterns, and plan for a worst case scenario, e.g. long-term detention in a "temporary" refugee camp. Topics include: supplies and logistics, site selection and shelter, health, food and nutrition, water, social services and education, etc. The need to call in expert assistance is often cited in place of detailed information on certain topics, which, like the pointers on common mistakes in camp management and the advice to encourage self-reliance and discourage dependency, appears to have been learned through hard experience. Further reference listings follow each chapter.

Recommended.

What is a Hurricane?, MF 35-830, booklet, 5 pages, Intertect, Washington, DC, out of print.

A brief, step-by-step, practical discussion of the nature of hurricanes and recommended measures to minimize damage and loss of life. Useful as an educational tool.

What is a Tidal Wave?, MF 35-831, booklet, 8 pages, Intertect, Washington, DC, out of print.

The nature and destructive capability of tidal waves are covered in a brief, straightforward manner, with specific recommendations for minimizing damage and loss of life.

Wind Resistant Block Houses: Basic Rules, MF 35-832, booklet, 8 pages, Intertect, Washington, DC, out of print.

A brief, illustrated guide to wind- and earthquake-resistant construction for basic housing clarifies the principles and vocabulary of other more technical publications.

Disaster Mitigation: A Community Based Approach, MF 35-834, book, 100 pages, by Andrew Maskrey, 1989, \$9.95 plus postage from OXFAM Publications, P.O. Box 120, Oxford OX2 7FA, United Kingdom.

Disaster mitigation is about reducing the hazards that make populations vulnerable to cyclones, floods, earthquakes, landslides, and so forth. Community-based disaster mitigation seeks to involve local communities in mobilizing local resources to reduce hazards and address the fundamental sources of vulnerability, while avoiding the ignorance of local needs and inequitable assistance often seen in government programs.

"As disaster risks increase due to urbanization, deforestation and population growth pressures, concerned officials in government or voluntary agencies will be wise to reflect on lessons from the Peruvian experiences described so vividly in this book. The community based approach may be the only way forward given the frequent pattern of governmental apathy towards their poor citizens and the limitations of overstretched public sectors."