PROTEIN-CALORIE ADVISORY GROUP
OF THE UNITED NATIONS SYSTEM

# A Guide To Food and Health Relief Operations for Disasters

Sponsored by: Food and Agricultural Organization of the United Nations; World Health Organization; United Nations Children's Fund; World Bank; United Nations

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# Contents

# PREFACE

The need has long been expressed for a practical guidebook to help organize and implement food and health relief in emergencies. In mid-1974, the Protein-Calorie Advisory Group (PAG) of the United Nations system and its sponsoring agencies approved the production of such a guide and charged the PAG Secretariat with the task.

As a first step, four consultants with considerable operational experience assisted in the preparation of an outline of contents for the book. After approval of the contents by the PAG and its sponsors, the Secretariat requested each of ten experts to prepare specific sections of the guidebook. These were Dr. Wallace Aykroyd (UK); Dr. Roger Hay (UK—currently in Ethiopia); Dr. Aaron Ifekunigwe (Nigeria—currently in US); Col. Pran N. Luthra (India); James MacCracken (US); Dr. David C. Miller (US); Dr. Ade Omolulu (Nigeria); Dr. V. Ramalingaswamy (India); Dr. Jon E. Rohde (US—currently in Indonesia); and Dr. Badri N. Tandon (India).

From the initial draft, a second and a third draft were developed before the manuscript was finalized. The revisions resulting in the final published text were carried out by Dr. P.S. Venkatachalam (PAG Secretariat); Dr. Jon E. Rohde (Field Staff Member, Rockefeller Foundation, Jogyakarta, Indonesia); and Dr. Badri N. Tandon (All India Institute of Medical Sciences, New Delhi, India).

Comments and suggestions from some of the initial contributors, several members of the technical staffs of the UN Agencies—FAO, UNDRO, UNICEF, WHO, World Bank—and from a number of non-UN experts also assisted in the development of the final text. The PAG thus wishes to express its gratitude to the initial contributors as well as to the various experts from the UN system and elsewhere who spared time to review the three drafts and to offer their suggestions. Special thanks are due to Professor M. F. Lechat and Dr. C. de Ville de Goyet, both of the Research Center in Disaster Epidemiology, Catholic University of Louvain, Belgium; Dr. T. Lusty of Oxfam, UK; and Professor B. Vahlquist of Uppsala, Sweden for readily sharing their experience by offering practical suggestions.

The object of this Guide is to provide practical information and clear instructions pertaining to all aspects of food and health relief for victims of disasters in developing countries. It is directed both towards national officials and non-governmental personnel in these countries, and seeks to enlist their involvement in all stages of planning and implementation. It is also designed for use of field workers at the supervisory level. The information is also intended to be useful to international workers—those of UN, bilateral, and voluntary agencies. Although various kinds of disasters, as well as short and long-term relief operations are considered, great emphasis is laid on long-term relief efforts.

The Guide is designed to be useful in training managerial and supervisory cadres and could provide a model for developing local training manuals for the various categories of field workers in developing countries assigned to deal with relief in those areas. It is hoped that it will stimulate production of simple, locally-adopted versions of manuals, instructions sheets, or leaflets, each dealing with a specified activity relevant to food and health relief, for use both in training and in operation. In anticipation of such local adaptations, no attempt is made in this Guide to offer specific instructions to non-supervisory workers.

There are 9 chapters and 12 appendices. Chapter 1 provides an operational classification of disasters and relevant relief activities indicated, and describes the objectives of the Guide and methods for its use. Chapter 2 outlines steps in planning for preparedness and prevention at local and national levels and indicates the role of international groups in these tasks. Chapter 3 alludes to some important procedures and essential supportive services such as transport, storage, housing, clothing, and special problems that might require attention. A detailed consideration of these important areas and their management—essential for the success of food and health relief—will require detailed treatment in a separate manual. Chapters 4 to 7 focus in detail on matters of assessment and organization of food supply and health relief programs and on the operational delivery of food and medical care. Chapter 8 discusses water supply and environmental sanitation; the section is mainly an extract from the excellent WHO Guide to Sanitation in Natural Disaster (1971) by M. Assar. Chapter 9, on post-disaster rehabilitation and development, summarizes the development strategy that must be built into the relief program and applied from the very outset in order to help prevent or mitigate disaster effects.

The appendices contain material of operational value. Particular attention is drawn to Appendix 2—"Popular Staples and Acceptable Alternatives"—prepared specially for this Guide by A. P. den Hartog, Nutrition Officer, Food Policy and Nutrition Division, FAO, Rome. The PAG is grateful to him and to Mary Ann Anderson, Nutrition Advisor, CARE, for supplying additional information for this section.

PAG Secretariat
New York, 1 January 1977

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# CHAPTER 1
# Introduction

Disasters are the results of breakdowns in the relationship between man and his environment. They may be precipitated by either man-made or environmental factors. Frequently, the precipitating cause masks a long-term deterioration in socioeconomic conditions which has rendered the people and the area vulnerable to the effects of the eventual catastrophe. This vulnerability and the severe effects that result indicate the futility of attributing disasters wholly either to natural phenomena or to man-made causes: the total disaster picture represents the cumulative effects of both.

## 1.1. CLASSIFICATION

1.1.1. **Etiological.** Disasters can be grouped generally under the following two headings:

**Environmental.** E.g., storms (hurricanes, tornadoes, cyclones); cold spells, heat waves; drought caused by prolonged failure of rain; crop destruction by pests; floods, tidal waves, avalanches, landslides, earthquakes, and volcanic eruptions; large-scale epidemics.

**Man-made.** E.g., the physical consequences of war, civil strife, political turmoil, religious or social persecution—causing social unrest and population movement; technological defects leading to accidents, fire, explosion.

1.1.2. **Operational.** In operational terms, disasters may be more usefully classified as follows:

**Acute catastrophes, temporarily disrupting an adjusted man-environment relationship:** E.g., cyclones, earthquakes, fires. Acute disasters, in addition to causing loss of life, injury, and destruction of property, create the need for immediate food, medical, and health relief for the affected population. Serious problems of sanitation and water supply may result. An efficient short-term relief operation designed to support the population will suffice until protracted rehabilitation and reconstruction become possible. (See Figure 1.)

**Disaster superimposed on a deteriorating man-environment relationship:** Drought best exemplifies this condition. Where there is a progressive erosion of the man-environment relationship caused by

severe poverty and chronic underdevelopment, any acute catastrophe, especially if its occurrence is cyclical, could give rise to similarly acute results. Complete disorganization of a society may result, with severe and prolonged problems in food supply, nutrition, and health, unless sustained effective relief action and rehabilitation are undertaken along with steps to reconstitute the social order and accelerate development. Long-term relief and rehabilitation along with planned development projects should be provided within a coordinated program, thus to aid in stabilizing the population-environment relationship. (See Figure 2.)

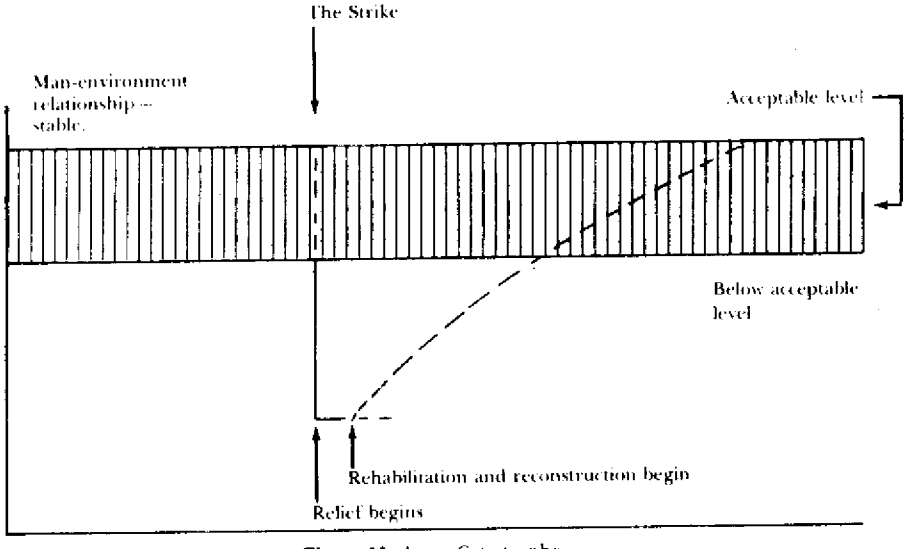


**Figure 1***: Acute Catastrophe.

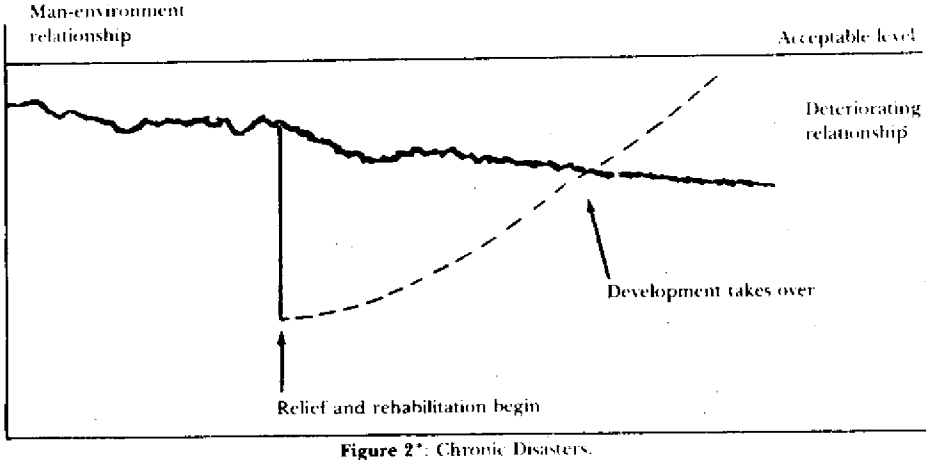


**Figure 2***: Chronic Disasters.

*Note the contour of the curves depicting relief, rehabilitation, and reconstruction. They give a general idea of the pace and time sequence of both the effects and the efforts.

## 1.2. OPERATIONAL ACTIVITIES

Five operational activities are applicable to all disasters.

**1. Immediate Post-Disaster Relief**

Components

- Rescue and emergency medical procedures.
- Medical aid and health protection
- Food and nutrition relief.
- Clothing and, where needed, temporary shelter.
- Other relief measures.

**2. Short-Term Rehabilitation**

Components:

- Temporary housing
- Re-establishment of basic services, including transport and communications.
- Formulation of detailed strategy for implementation of reconstruction plans
- Nutrition rehabilitation, health control.
- Restoration of agriculture activities.

**3. Reconstruction:** Full-scale implementation of plans for accelerated socioeconomic development of the affected area.

**4. Disaster Mitigation and Prevention**

Components:

- General Preventive Measures
  - Statistical studies of phenomena leading to disasters.
  - Planning and legislative measures (land use, zoning, building codes)
  - Technical measures (structural designs, building materials, irrigation works).
  - Education and training for specific tasks
- Understanding, Forecasting, Warning, and Control
  - Scientific study of causative natural phenomena.
  - Development and organization of warning system.
  - Education of population to heed warnings.

**5. Preparedness for Relief**

Components:

- Setting up administration and organizational machinery.
- Preparation of operational plans for relief, rehabilitation, and development.
- Training of personnel, especially local groups.
- Stockpiling of supplies.
- Organization of the raising and distribution of funds for relief operations.

Headings 4 and 5 above relate to pre-disaster planning; headings 1, 2, and 3 cover post-disaster action in the affected area The magnitude and

complexity of each of the above activities and their components may vary according to type and severity of the disaster, size of the area involved, socio-economic and environmental conditions of the affected region, and available resources and facilities that can be mobilized. Nevertheless, the underlying concept to be stressed is that the above activities are not independent but *interdependent* and should be implemented in a coordinated and integrated fashion. The objective is that such efforts lead to the prevention of future disasters. In cases where total prevention is impossible the minimum objective becomes the substantial reduction of harmful effects. Each activity and its component measures have an impact and influence on others with *planning* providing the key to success.

## 1.3. RECENT PUBLICATIONS

Many publications review the different aspects of various disasters and the dimensions of the problems they pose. Some describe planning and relief efforts needed when disasters strike. Others, in the form of articles and research papers, explore specific or multiple aspects of the problem. Recent publications which provide useful guidance are indicated in Appendix 1. This listing, however, does not pretend to be exhaustive of all materials on the subject. A list of some organizations and institutions engaged in the study of disasters is provided in Appendix 2.

## 1.4. OBJECTIVES OF THE GUIDE

One of the recommendations made at the International Famine Symposium (see Appendix 1, Item 2) was that a manual be prepared for guidance of national governments and relief agencies to help plan and undertake adequate relief activities. The UN Agencies sponsoring the Protein-Calorie Advisory Group (PAG) endorsed this recommendation and the PAG was asked to undertake this work.

This Guide is built around two themes: 1) preparedness planning for post-disaster relief operations; and 2) implementation, particularly of *food supply, nutrition, medical, and health relief strategies*. The other components of action in immediate post-disaster relief—rescue, temporary shelter, clothing, and other measures—are only briefly noted as they relate to the main theme. Several equally important activities to support food and medical relief have been pointed out where appropriate. Since relief action should merge into longer-range programs of development that seek to prevent disasters or mitigate their effects, a brief section (Chapter 9) is provided on rehabilitation and related reconstruction activities. For reasons of most urgent need, emphasis in the Guide is given to disasters that are superimposed on a deteriorating man-environment relationship and which, in turn, lead to severe disruption of normal life patterns and will require long-term relief and rehabilitation.

The Guide attempts to answer two basic questions:

1. How can people affected by catastrophe be effectively helped to reduce or eliminate malnutrition, other illnesses, and death?
2. How can national authorities prepare themselves in advance to undertake the above task? And how can they be assisted by international groups and voluntary agencies?

## 1.5. PREPAREDNESS AND RELIEF — THE NEED FOR FLEXIBILITY

Disaster-prone countries vary in size and in their stages of development. They may not usually be expected to possess all the necessary resources, personnel, and facilities to mount an optimal relief effort or develop an adequate planning, administrative, or assessment framework. The organizational set-up and its activities may differ widely owing to a variety of local factors (ethnic, geographic, and economic subdivisions; staple foods and nutritional habits; climate; available services and personnel; communications and transport facilities). The nature and magnitude of the disaster will also influence the nature of subsequent relief efforts. Hence, relief operations in individual countries cannot follow a stereotyped pattern. The Guide cannot, therefore, offer proposals that will fit all situations. The planning model, administrative structures, and relief procedures herein described are only examples that should be modified to suit a country's resources, facilities, and needs, but without sacrificing the basic essentials.

## 1.6. HOW TO USE THE GUIDE

The best way to begin to put the Guide and its contents into practice is to convene a series of national workshops and task-force meetings to gather data on each major area of relief with particular reference to types of problems, the gaps in formation, and the resultant requirements for relief. Subsequently, steps should be taken to define procedures for action. In support of these steps, authorities should undertake to prepare relief manuals and similar materials for use in training programs and operational field tests.

Simple, inexpensive studies should be developed to fill gaps in information and all accumulated data should be kept fully up to date. A key step is the establishment of a small office at the outset to serve as the focal point for all activities. Care should be taken to place an influential leader at the head of the office.

The following list of actions is recommended for putting the Guide to use:

1. Establishment of a National Disaster Relief Organization (NDRO) with a chief Coordinator. The NDRO should in turn contact the office of the United Nations Disaster Relief Coordinator (UNDRO), Geneva, to secure planning assistance.

2. Hold combined ministerial workshops to define broad areas of responsibility.
3. Hold sector workshops to specify manpower needs, job descriptions, lines of responsibility, tasks.
4. Hold sector training to develop written procedure guides, training courses, and field procedures.
5. With respect to the curricula of medical, paramedical, and other technical and administrative education programs, integration of relevant principles of disaster relief and rehabilitation.
6. The assembly and review of all available data on past disasters and responses, problems faced, resources, and the categorization of successes and failures.
7. Undertake baseline assessment—each sector to gather hard data on existing equipment, supplies, logistics, demography, geography, health, nutritional status, agriculture, climate, marketing.
8. The organization of state-wide, regional, or local-level officers similar to NDRO as necessary, to implement in turn specific training programs for preparedness planning and relief work.
9. Hold national workshops producing sector reports at periodic intervals.
10. Hold mock disaster mobilizations (area-wide or sector-wide) to test preparedness and to provide grounds for evaluation and modification of existing plans.
11. Provide UNDRO with detailed plans, projected needs, restrictions.

# CHAPTER 2
# Planning for Disaster Preparedness and Prevention

Post-disaster relief is not a simple or routine operation. Further, the efforts required to rehabilitate the population and to prevent or mitigate the effects of catastrophes (through reconstruction and accelerated development) are even more complex. All such programs require the coordinated, anticipatory action of several government branches The action related to rehabilitation and prevention includes review of needs, definition of basic preventive measures, development of a strategy incorporating these measures, and implementation of same. Measures related to preparedness for relief include data collection, information exchange, mobilization of supplies and resources, and development and support of specific training facilities.

Disaster preparedness and prevention also has an international component. International planning is a logical extension of national planning and can be effective and purposeful only if national plans and procedures have been clearly laid out first

## 2.1. GUIDING PRINCIPLES

1. Most extreme consequences of disasters can be prevented or substantially mitigated through accelerated socioeconomic development
2. Preventive measures also act as cost-saving devices, especially when planned and introduced in advance of an actual occurrence.
3. Preparedness planning is the key to lessening human suffering and enabling a quick return to normal activities in the affected area.

## 2.2. THE ORGANIZATIONAL FRAMEWORK

It is impossible to describe or recommend a guide for planning before one has a thorough knowledge of the formal and functional relationships of the country's administrative organization In this regard, the functional aspects are more significant than the formal connections. Knowledge of and familiarity with the administrative structure down to the grassroots level and its operating techniques are essential. Village leadership patterns should be well understood and utilized. The national planning office and its functioning methods should be carefully reviewed, since prevention and preparedness planning should be

treated as part of the national development plan. The planning office should have a section to formulate specific plans for development in disaster-prone areas.

## 2.3. NATIONAL DISASTER RELIEF ORGANIZATION (NDRO) AND ITS COORDINATOR

The first step of systematic pre-disaster planning is the formation of a government-controlled administrative and operational mechanism—i.e., a National Disaster Relief Organization (NDRO)—in every country prone to disasters. It is difficult to prescribe a standard for the precise size and level of the proposed NDRO. Such considerations are dictated by several factors, not the least important of which are resources and personnel available. Nevertheless, the goals of effectiveness and practicality are best served by planning and managing all disaster activity through such a single national organization, augmented by appropriate regional and/or local subdivisions.

A temporary or even permanent organization headed by an administrator without influence in the government promises to be weak and inadequate; it will tend to be unprepared, and will frequently cause more harm than good. Since *absolute* coordination is essential for planning and execution of relief, the NDRO should have as its executive head a National Coordinator who is a key figure in the cabinet or government, with a close working relationship with the President/Prime Minister. The Coordinator should be invested with complete coordinational control over all phases of the planning and execution of national disaster relief activities both during and between emergencies. To assist the Coordinator in his work, a small permanent staff should be established. Even the best laid disaster plans, when functioning in the absence of an NDRO with strong authority, are likely to fail.

## 2.4. POWER AND AUTHORITY OF THE COORDINATOR

**2.4.1. During Emergency.** The Coordinator should be able to commandeer the services of skilled executive staff from other ministries of the government to advise him and to take up responsibility and direction for all relief and rehabilitation activities which fall within their expertise. Ideally, these officials should have closely participated in relief and rehabilitation planning during the pre-disaster period. The Coordinator should have full powers to utilize all personnel and facilities of the various departments and ministries of the government and the voluntary agencies and have the right to assign, when and where required, personnel for relief-related work falling within their ability. The Coordinator should appoint other coordinators at the district/division and provincial levels who will hold similar powers in their area of jurisdiction during the period of emergency and who will in turn be subject to coordination and control by the National Coordinator.

The following chart (Figure 3) gives an example of the types of expertise that may have to be assembled by the Coordinator to successfully carry out all relief and rehabilitation work.

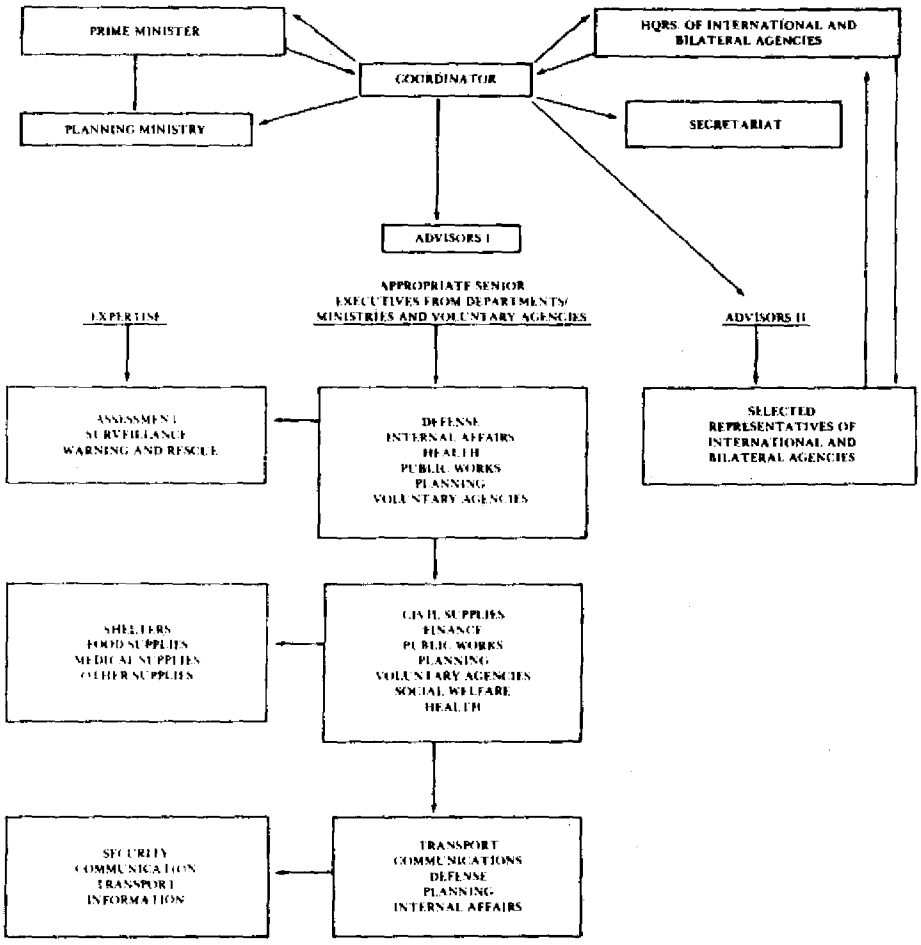


**Figure 3:** Types of Expertise Needed by Coordinator (A Sample).

**2.4.2. Post-Emergency Procedures.** The Coordinator's functions will be largely concerned with planning both for future preparedness and prevention. Ideally, this function should precede the occurrence of any disaster.

The planning for prevention of disasters—an effort closely tied to reconstruction and socioeconomic development—should be undertaken in close cooperation with a planning ministry: projects and

programs should form an important and integral part of national development plans and programs. This procedure is briefly indicated in Chapter 9.

The planning for preparedness has additional priorities. These include the training of various categories of personnel, stockpiling of supplies and equipment, earmarking of funds, setting up of an adequate communications and public information system, all of which taken together form the strategy for relief action and rehabilitation should the disaster strike again. In order to carry out these many planning tasks, the Coordinator should have the powers to obtain for short periods the transfer of appropriate technical personnel. Furthermore, senior technical staff from ministries/departments (see Figure 3) should involve themselves in planning functions while continuing to carry on their regular duties. Much of the information and data obtained for preparedness planning no doubt will be applicable to long-range development planning.

## 2.5. PLANNING FOR PREPAREDNESS

The three major areas of action are:

1. Gathering background information (assessment) and updating the same through regular monitoring of data (surveillance).
2. Exchange of information on national and international levels.
3. Development and support of training facilities.

The coordinated plan arising out of these efforts should lead to the preparation of detailed individual plans for the different types of relief activity. Such a plan should clearly define objectives; command and control structure; define the limits of authority and responsibilities, lines of communication, and channels for requesting supplies and allocation of resources; and provide step-by-step details of operation. The plan should provide for effective liaison, inspection, and evaluation, and should mandate executive powers for all eventualities.

## 2.6. PREDICTION AND EARLY WARNING SYSTEMS

Data that will help identify the disaster-prone areas and predict impending disasters in a given country should be recorded and constantly reviewed and updated. Continuous monitoring of information on the following four aspects—along with evaluation and interpretation of the information—should be implemented:

1. Geographical zones[1] where disasters such as earthquakes, droughts, floods, cyclones, and tidal waves occur should be mapped. Efforts should be made to obtain assistance from international agencies for establishing necessary procedures or for the adoption and use of advanced techniques (e.g., seismological equipment, weather satellites, hurricane warning methods) to serve as early warning systems. (See List of Publications—UNDRO, Appendix 5.)

2. Meteorological data—climate, rainfall—broken down regionally to identify drought conditions and anticipate trends.
3. Quarterly reports on the agricultural situation and food supplies—crop conditions, factors responsible for not planting, harvest reports, bottlenecks in crop movements, food imports/exports, food security, and food relief stocks. Technology is also available for prediction and for the launching of coordinated campaigns against pests, insects, and other infestations through use of trained ground crews, airborne sprayers, swarm-tracking radar, earth satellites, and hovercraft.
4. Monitoring political events, wars, civil disorders, and anticipation of probable effects.[2]

Skilled interpretation of the above range of information and of data presented in the following section will enable the National Disaster Relief Organization to take anticipatory steps and thus be prepared for eventualities

Even when such warning is made, however, the communications systems may be inadequate to disseminate the warning to specific areas.[3] There are also problems of oversensitivity (false positive with "Cry-Wolf" alarm) and lack of specificity (false negative with warning too late) to guard against Proper training for involved personnel and education of the population at large on how to recognize and use the warning system are essential prerequisites for success.

## 2.7. SELECTED SOCIAL STATISTICS

Systematic collection and updating of statistical information is important for planning effective relief action. This data can be applied effectively to food, health, and medical care and to planning for long-range improvements in the vulnerable areas.

The following is a *sample list* of items on which data from disaster-prone areas should be collected regularly.

**1. Demographic Data**

- Population estimates, age, sex distribution.
- Migration pattern, sudden and large movements.
- Types of houses; distribution of residents living in different types.
- Significant socio-cultural habits.

**2. Facilities and Services**

- Administrative structure and personnel
- Number and types of various institutions and organizations.
- Categories of technical/professional personnel by area; listing of names.
- Transportation and communication facilities, with maps.
- Availability and location of protected water supply and other water reserves.

**3. Food and Nutrition**

- Adequacy of basic food-supply level, including stocks from all sources.
- Prices of main staples and substitutes; availability in open market.
- Specific food habits and taboos.
- Consumption patterns among different socioeconomic groups, ages, and sexes. Quantitative data, if feasible.
- Prevalence and types of malnutrition.
- Weight for age and weight for height in representative sample groups of young children in different localities.
- Percentage of children 1-5 years below a standard arm circumference in selected sample.
- Percentage of infants receiving breast milk.

**4. Health**

- Medical facilities, including primary health service points.
- Types of services—preventive/curative.
- Main causes of deaths by age groups.
- Prevalence (including seasonal) of serious infections;[4] emphasis on children under five years.
- History of epidemics.

**5. Other Categories**

- Resources available locally (e.g., clothing, construction, shelter materials).

The existing facilities and infrastructure in many countries may not be sufficient to obtain at regular intervals data for all items listed above. However, efforts should be made to obtain updated information on as many items in the list as possible.

The periodicity of collection will vary with the type of data—quarterly, semiannual, or annual. Information on many of the items should already be available through government departments and such data should be consulted for review and interpretation. Sources of health information include documents and publications issued by health ministries, universities, and health institutes. Periodic reports from district health offices should also prove valuable. Nutrition information might be available from the above sources as well as from specialized institutes of nutrition. Where necessary, data collection should be undertaken through special, limited surveys or in defined areas.

Regular monitoring of the data and their prompt interpretation at the NDRO (or preferably at its local offices) will help to identify the trends and provide a warning system.

## 2.8. DATA-PROCESSING FACILITIES

The National Disaster Relief Organization need not establish its own

data-processing facilities, but may make use of existing resources and facilities as may be available within the country. However, it is important that the NDRO has these facilities available to it when required—both during planning and during emergency relief operations. Before establishing a system, the resources required for data processing should be considered carefully. It is perfectly possible to process data by hand, although a number of people must be trained and an efficient system established, as enormous quantities of data will accumulate with time. It is of little use to set up an elaborate system only to find that data accumulate on shelves and are never processed or interpreted.

If computer facilities are available, the advantages and disadvantages of mechanical data processing should be considered. A computer is merely a giant calculator capable of handling rapidly a large volume of data. It has the advantage of being able to perform sophisticated statistical tests which serve to improve the confidence with which results can be interpreted. The advantages of computer-based data processing are best seen in the long term. It is well to be aware of the cost and time required to set up and check the "programs" which determine the computer function. In addition, the preparation of data for computer analysis requires a number of steps and the employment of trained staff. Thus, it is only when the flow of data is large that mechanical data-processing techniques come into their own. Computers are now available in many large cities in developing countries and these are often not used to full capacity. Even if a computer is not available, it is now possible, at short notice, to have a teletype connected to a computer terminal elsewhere.

The major tasks in data processing are compilation and tabulation. These tasks may be performed by people with basic education, provided they are trained adequately. Statistical analysis demands familiarity with basic statistics, although this accounts for only a small part of the work. In the case of biological data, it is important that an adequate statistical analysis be performed, since such measurements contain wide variations and cannot be interpreted satisfactorily unless confidence limits are established. A tremendous amount of time will be saved if sufficient personnel are recruited and trained specifically to deal with such data. Should events dictate, these personnel will be in place and ready to receive the data as they are collected. In this way, mistakes can be rectified easily and doubtful points clarified.

## 2.9. SPECIFIC PLANS

A multidisciplined evaluation of past disaster procedures and an analysis of the impact of past nutrition and health programs and their cost/efficiency—along with the collection of background information (as described above)—will be of help in the drawing up of specific plans for relief operations. The following aspects should receive attention in such plans:

1. Personnel organization, staff communication channels, and lines of command.
2. List of supplies and supply requirements, with priority ratings for each region as well as for specified disasters.
3. Lists of possible supply sources—local, national, and foreign. The items should include storable food supplies; drugs; transportation facilities and equipment (including provision of spare parts and maintenance); personnel availability, with names and addresses; communication systems and facilities; health facilities; shelters and construction materials. In most instances, the armed forces possess the best facilities, personnel, and organizational discipline for rapid, decisive, and effective action.
4. Stockpiling of essential supplies. Inventory of heavy equipment in current use in both the private and public sectors. Kitchen supplies, sanitary and water-supply equipment, and hospital supplies. It should be ensured that the equipment and supplies stockpiled conform to standard specifications.
5. Models of sectoral plans and details of the different stages of action.[5]
6. Logistics of movement of men and supplies.
7. Evaluation and feed-back channels.

## 2.10. PUBLICATION OF DISASTER MANUALS

Production and distribution in local languages of easy-to-follow disaster relief manuals, written to provide local administrators and all potential relief workers with procedures for coping with an emergency. The following are a few suggested specific topics for local manuals:

1. Nutrition Workers Manual
2. Paramedic Guide for Operational Emergency Services
3. Sanitary Procedures in Disasters (for sanitarians)
4. Civil Service Communication Guide for Relief
5. Logistics and Supply for Field Workers
6. Agricultural Procedures as Disaster Response

Regional variations and the different types of disasters—their peculiarities and special requirements—should be clearly stated and accounted for. Manuals should be revised and updated periodically, based on latest experience.

## 2.11. TRAINING

There is a clear need for the training of cadres for the different activities. A list of these activities should be prepared along with a directory of existing personnel who are trained to handle these tasks. A similar international listing will be available through the UNDRO. After training, cadres could return to their normal occupations. They would then constitute a reserve that could be mobilized in an emergency.

The training needs can be divided broadly into those relevant to management and supervision, to technical work, and to auxiliary activities. Selected senior and junior administrators and some senior technical officers should receive training in planning, recognition, management, execution, and evaluation of disaster relief activities. Short refresher courses on specific aspects should also be provided at regular intervals.

The basic training needs at the supervisory level for carrying out technical activities in food and health relief exist in the fields of:

1. Practical nutrition and dietetics, including community nutrition.
2. Public health, epidemiology, and sanitary science.
3. Bio-statistics.
4. Sanitary engineering.
5. Nursing.

Personnel with basic qualifications in the above fields and those with adequate experience should be provided with short periods of training for the specific tasks that they may be called upon to supervise and/or perform during disaster relief and rehabilitation. Such training courses should be reinforced with periodic practical field exercises. Personnel with rudimentary qualifications or experience lower than the above (these might include teachers and priests) should be trained for specific technical tasks appropriate to their background. Thus, they can be enabled to perform auxiliary duties at various levels when called upon to do so.

Managerial and technical training for supervisory roles should be centrally planned and organized, while the training for auxiliary functionaries should be controlled at the regional or district level, with trainees drawn from the local area. A specialized type of training is required for rescue and evaluation work; these trainees should receive practical experience through participation in maneuvers and through direct use of equipment. Specialized training is also required for sanitarians engaged in vermin control, waste disposal, sanitation, and the maintenance of water-supply systems.

It is important that all training courses be practical in scope, with a minimum of theoretical work. Training curricula for different types of activities should be prepared by experts from the appropriate department or agency of the government. Demonstrations and exercises in the use of equipment and supplies will help simplify and expedite the training process. Pamphlets should be drawn up as guides for specific tasks for use in training and for actually carrying out the work. The evaluation of training through drills and exercises will help to test the operability of the plan, the level of efficiency of trained personnel, and the adequacy of facilities.

## 2.12. PROCEDURE FOR IMPLEMENTATION OF THE PLAN

**2.12.1. Declaration of a State of Emergency.** As soon as the national government declares a particular occurrence to be a national disaster, the Coordinator—usually on the basis of advice from NDRO—begins the relief efforts by activating the pre-tested preparedness plan. Coordination and direction in the implementation of the plan of operation begins and is terminated only by the official declaration of the national government (on NDRO's advice) that the state of emergency is over.

**2.12.2. Central Control.** Regular communication with command posts in the disaster zone and continual access to the personnel engaged in various relief activities are essential. Regular meetings of the advisors—who should include representatives of international, bilateral, and voluntary agencies, as well as others when necessary—should review the progress of relief efforts.

The Coordinator should assume the following special powers (with due legal protection) after the declaration of emergency:

1. To enforce evacuation of population in the affected areas and commandeer all facilities.
2. To impose price controls.
3. To impose and administer food rationing, or to assume control over specific commodity markets.
4. To issue free visas expeditiously for bonafide international relief workers.
5. To exempt donated and accepted relief materials from duty tax and other impositions.
6. To facilitate berthing of ships and simplification of customs clearance procedures for ships carrying relief materials.
7. To offer favorable currency exchange rates for relief funds from abroad.
8. To commandeer warehousing facilities to accommodate relief materials.
9. To permit entry and operation of transport and telecommunications facilities for relief supplies and personnel.
10. To permit licenses for radio transmitters and for their operation in relief work.

## 2.13. NATIONAL VOLUNTARY ORGANIZATIONS

In every country, there are several reputable and well-established voluntary organizations engaged in various aspects of welfare work training, particularly in areas of health and nutrition. Their members usually possess great experience and skill in the different types of relief activities. The NDRO should utilize the services of the national voluntary bodies in all stages of disaster relief work. The first step is to

prepare a list of these organizations and the types of activities they are engaged in. The information should be updated at regular intervals.

## 2.14. INTERNATIONAL ASSISTANCE

There are several international and bilateral agencies and organizations geared to provide assistance in developing plans for prevention and preparedness, for implementing relief and rehabilitation efforts, and for launching programs for reconstruction.

Within the UN System, the following agencies and organizations have facilities and technical expertise to extend assistance to countries for the above purposes:

Office of the United Nations Disaster Relief Coordinator (UNDRO)
Food and Agriculture Organization (FAO)
United Nations Children's Fund (UNICEF)
World Health Organization (WHO)
World Food Program (WFP)
International Telecommunications Union (ITU)
World Meteorological Organization (WMO)
United Nations Development Program (UNDP)

## 2.15. BILATERAL AGENCIES

The following agencies have resources and funds available for use in post-disaster development, subject to requests from national governments:

Canadian International Development Authority (CIDA)
Danish International Development Authority (DANIDA)
Norwegian Agency for International Development (NORAD)
Swedish International Development Authority (SIDA)
United States Agency for International Development (USAID)

In addition to the above, national governments of several countries make facilities and resources available externally on a case-by-case basis in disaster situations. Normally, the ministries of foreign affairs, overseas development, or international cooperation will be the responsible office to which the approach should be made.

## 2.16. VOLUNTARY AND OTHER ORGANIZATIONS

International Council of Voluntary Agencies (ICVA) represents extra-governmental, non-commercial organizations engaged in world-wide developmental, social, and humanitarian activities. It has a membership of nearly 100 organizations. The American Council of Voluntary Agencies for Foreign Service, a member of ICVA, has a membership of nearly 50 US voluntary agencies. (A note on the services rendered by these organizations, their mailing addresses, and their publications are listed in Appendix 3.)

## 2.17. OTHER INSTITUTIONS

Several institutions and centers around the world are continuously engaged in studies and research on aspects of various types of disasters, including development of methods of planning, monitoring, and dissemination of information. They offer guidance in designing simple techniques and tools for relief work as well as for daily use in rural communities. The information and expertise developed in these institutions should be acquired for use by the National Disaster Relief Organization. A list of some of these centers is provided in Appendix 2. (The PAG solicits information from readers about the existence and activities of other centers.)

## 2.18. INTERNATIONAL COORDINATION AND LIAISON

Coordination and exchange of information with international agencies during non-emergency periods and close cooperation and understanding during periods of emergency relief are important.

## 2.19. OFFICE OF UNITED NATIONS DISASTER RELIEF COORDINATOR

Increasing international concern over the effectiveness of assistance from the world community in cases of disaster led the General Assembly, by means of resolution 2816 (XXVI) of 14 December 1971[6], to request the Secretary General to appoint a Disaster Relief Coordinator and establish the Office of the United Nations Disaster Relief Coordinator (UNDRO). The functions of the Coordinator and his office are essentially:

1. To provide advice on pre-disaster planning and disaster preparedness in developing countries.
2. To obtain precise information as to relief requirements in disaster emergencies.
3. To mobilize and coordinate disaster relief emanating from the international community.
4. To maintain a clearing house in Geneva for the exchange of information and for the matching of needs with supplies and services.
5. To keep on record information as to the nature and extent of emergency assistance that donor countries and organizations are prepared to furnish.
6. To promote the study, prevention, control, and prediction of natural disasters, including the collection and dissemination of information concerning technological developments.

With this mandate from the UN General Assembly, UNDRO is equipped to extend assistance to countries in planning for disaster preparedness and prevention, and for relief, rehabilitation, and reconstruction after the disaster. As a focal point for all international assistance groups, UNDRO provides a great advantage, and will signif-

icantly help coordination while reducing duplication of efforts and confusion. It is recommended that all nationals engaged in planning for disaster prevention and relief be familiar with the research, development, and technical cooperation activities of UNDRO. They should also be aware of the several ways in which UNDRO responds to requests for emergency assistance. Appendix 5 provides a list of UNDRO's publications.

## 2.20. MEANS OF COORDINATION

Experience has demonstrated a frequent lack of coordination between specific national needs and the foreign assistance provided. Coordination can be achieved only if there is clear and effective communication on a regular basis between the National Disaster Relief Organization, on the one hand, and the office of UNDRO or its national representative, on the other. Resident UNDP representatives in the different countries are to represent UNDRO and will serve as links between the National Coordinator and UNDRO. Information received on a continuing basis will be entered by UNDRO in a data bank for use whenever needed.

## 2.21. INFORMATION INPUTS

Such information may be classified as that provided in periods between emergencies (pre-disaster communications) and that given during emergencies. Both types of data represent a continuous flow of information both ways, thus helping the National Disaster Relief Organization and UNDRO to update their respective records, and to keep abreast of changing situations and needs.

Ten major categories of information are suggested as follows:

1. **Disaster plan.** When available, this plan should be shared with the UNDRO and discussed with its officials. It should indicate estimates and types of national resources, types of assistance needed, and a full description of the country's geographic and cultural background. The country's logistic facilities, disaster experience, and an evaluation of past emergencies and relief efforts should also be covered.
2. **Inventory of potentially needed international support.** Items of food, medicine, equipment, and other relief materials not readily available in the country.
3. **Stockpile replacement.** Items needed to replace exhausted stocks so as to maintain disaster supplies at a safe level.
4. **List of permitted contacts.** Any special conditions to be observed by UNDRO prior to its contacting of foreign governments/ voluntary agencies for the purposes of soliciting disaster relief.
5. **Need for personnel.** The approximate number, type of expertise, and other conditions, if any.

6. **Money.** An estimate of funds, broken down according to use.
7. **Evaluation of disaster response.** Results of review of all aspects of past relief efforts. These data are crucial to training and communications phases for future preparedness
8. **Training facilities.** Types of training needs and facilities available and required. Access to international experience, seminars and discussions, and literature—e.g., international operational handbooks, reports of case histories.
9. **Consultation services.** Vast resources of experience and data are available at the international level and should be available through UNDRO. Needs should be identified for specific information pertinent to the country and access sought through UNDRO.
10. **Request for immediate and unexpected needs.** Specific assistance available on an emergency basis from UNDRO whenever such contingency arises.

## 2.22. PHILOSOPHY OF INTERNATIONAL AID

Since the only goals of international disaster response are humanitarian, all help and support should be made with due respect to the attitudes of the community and the national authorities Planning for reconstruction should take into account national plans and priorities, and should be sensitive to national parameters.

## 2.23. FUNDING

Relief operations should not suffer for want of funds. Various sources of funding should include an ongoing budget to serve as a "cushion" for meeting emergencies and disasters at national, regional, and local levels. In addition, special sanction should be obtained from the government for the release of emergency funds. Additional funds may also be raised through non-governmental sources with suitable special appeals for raising funds. Wherever necessary, technical and financial assistance should be sought from foreign governments and other international donors. Financial and technical assistance can be obtained from the UN System through UNDRO.

To carry out successfully all the activities enumerated in this Guide, it is essential for the NDRO to have a preparedness plan containing clear-cut guidelines and *tested* procedures for each step in all relief activities. The Coordinator should be provided with the necessary personnel, appropriately trained in readiness well before the occurrence of the disaster. Sufficient supplies should be made available, either in stores or through a system of easy retrieval.

## NOTES TO CHAPTER 2

[1] The San Andreas fault runs through a well-known route and was responsible for major earthquakes in both San Francisco (1906) and Peru (1970). Also, the paths of the hurricanes that sweep through the Caribbean every year are known. In the Bay of Bengal, cyclones occur on the average of four a year, and the vulnerability of the southern coast of Bangladesh is evident. Certain areas along major rivers are in risk of flooding, including regions astride the Yangtze, Ganges, and Amazon. Other noteworthy areas are the slopes of active volcanoes such as Merapi in Indonesia and on Guadeloupe in the Caribbean.

[2] In Biafra, malnutrition did not become a public health problem until about six months after the outbreak of hostilities. The liberation war in Bangladesh broke out just before the normal cholera season in West Bengal, making an epidemic a predictable certainty.

[3] For instance, although the cyclone that devastated Bangladesh (1970) was clearly forseen by weather satellites two days in advance, farmers along the southern coast received insufficient warning; little or no information reached the rural regions, where transistor radios were in short supply.

[4] Recognition of an impending seasonal measles epidemic in Biafra and knowledge of the devastating effect of measles on children already weakened by malnutrition, led to an urgent appeal to the international relief agencies and their rapid response through a mass immunization campaign.

[5] E.g., for relief feeding, organizing food distribution is one of the important elements. In the Bihar (India) famine, schools were selected as the most suitable conduits for food distribution to children; a special effort was made to include preschool children. This procedure taxed the school system to its limit and, in some cases, instruction had to be suspended, although this was justifiable considering the priorities. In Biafra, the most effective channels for food distribution were the religious institutions and their agencies such as Caritas Internationalis and the World Council of Churches. These agencies had a network of organizations that extended to practically every village and, through use of indigenous missionaries, these efforts were effective in reaching most communities.

[6] For the complete text of the Resolution, see Appendix 4.