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Establishing Needs After a Disaster: Assessment

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**ESTABLISHING NEEDS AFTER A DISASTER:  
ASSESSMENT**

**1981**



## ESTABLISHING NEEDS AFTER A DISASTER:

### ASSESSMENT

#### 1. ORIENTATION

One of the first tasks after a disaster is to assess the impact and extent of the disaster. It is necessary to determine who is affected; where they are; the extent of basic losses such as food, personal effects and shelter; threats to health; and the impact on physical and economic infrastructure.

Disaster assessment refers to the survey activities carried out to determine the effects of a disaster on a community and a society. Disaster assessment has four sub-activities:

- A. Needs Assessment is the determination of the needs of the victim. This is usually divided into immediate needs and long-term needs.
- B. Damage Assessment is the determination of the extent of physical damage to buildings and manmade structures. Two types of damage assessment are normally carried out. The first is to determine the gross damage to a community so that reconstruction planning can have the necessary statistics for determining the aid levels required. The second is a detailed structural analysis of typical buildings to determine the causes of failure and methods for modifying the structures so that, during reconstruction, suitable steps can be taken to make the building safer.
- C. Access Assessment is the identification of disaster-caused bottlenecks which will prevent or hamper search and rescue operations or delay other response activities. The assessment would include the identification of landslides closing roads, the inspection of bridges to ensure that they can be crossed following an earthquake or a flood, etc.
- D. Epidemiological Surveillance is the early identification of threats to health precipitated by the disaster and establishment of a watch and medical response capability to identify, isolate, and eliminate any actual health problems.

The occurrence of a disaster typically leads to assumptions about victims' needs on the part of donors and the national government. This is particularly true when a disaster receives wide media coverage. The most general, sweeping assumption is that relief from external sources is required. This commonly results in the disaster-affected country being swamped with tons of unsolicited, inappropriate, and frequently unneeded

food, clothing, medicine and shelters. Thus, rapid and accurate disaster assessment is of the utmost priority to help establish needs and priorities.

## 2. KEY ISSUES

### A. Perspective

For an agency planning to implement a relief program, information must be obtained that clearly identifies the needs established by the disaster victims. Often agencies see needs in relation to what they can provide, and neglect to equate needs with available resources. It is important that the needs assessment reflect the victim's perspective to the greatest extent possible. It is also essential that the surveys identify the gaps created by the disaster and relate them to pre-disaster conditions.

### B. Timing

It is important to conduct surveys at the most appropriate time. Detailed structural analysis, for example, can wait until access and needs surveys have been completed.

During the early stages of an emergency, it is necessary to coordinate the collection of information so that the personnel available can be maximized. Thus, surveys should be broad in scope and surveyors and interviewers should be given instructions on data needs for a variety of sectors.

### C. Survey Techniques

The selection of appropriate survey techniques for the sector in which the data is needed should be related to the particular "phase" of the disaster. The actual emergency stage of a cataclysmic disaster usually lasts only about 48 - 96 hours, during which time data concerning life support should be gathered. Early information on the scale and impact of the disaster is also of vital interest.

The techniques used to collect information during the period immediately after the disaster will vary depending on the site. In any case, a thorough "house-by-house" survey is usually not feasible. Rather, a general picture of the disaster should be obtained from a combination of information sources.

Immediately following a disaster, low-level reconnaissance flights can provide limited but useful information, if conducted by trained observers. The techniques of observation are very sophisticated, but such observations can help determine the geographic extent of the disaster area, the relative degree of damage at each location, and perhaps patterns of the community's emergency response.

The most useful source is an on-site visual inspection of representative disaster-stricken communities by a person or team trained in post-disaster assessments. Observers should be trained to discriminate between relevant and irrelevant information.

(1) Initial Survey

The following information should be collected immediately after a disaster:

- (a) The relative degree/severity of the disaster to different regions/locales.
- (b) Approximate number of people injured and requiring medical aid and/or evacuation.
- (c) Assessment of exposure risks from current and forecasted weather.
- (d) Assessment of each community's ability to provide self-help emergency assistance.
- (e) Assessment of immediate needs for life support (food and water).
- (f) The number of survivors that have access to some form of shelter and those who do not.
- (g) Approximate manpower at the disaster site capable of assisting in emergency efforts (especially search and rescue).
- (h) Identification of persons or communities at risk from secondary disasters.

Based on this information, the disaster relief coordinators should determine the most appropriate and feasible form of emergency assistance that can be made available and assign appropriate priorities.

It should be remembered that the initial survey taken immediately after the disaster will be incomplete and based on data that is rapidly changing. Although the goals and objectives of a relief program may be based on this initial survey, it is imperative that changing conditions be anticipated.

For most relief and reconstruction programs, needs assessment is extremely important. The information collected by the relief organization must be helpful in assessing the viability of alternative courses of action.

Once the basic needs have been identified, a rough quantification should be determined. Agencies should be careful not to become too overly involved in quantifying the data, but should attempt to gather a rough estimate of percentages of families requiring

different types of assistance. Care should be taken not to overestimate demands. A count needs to be taken of the reserves of food, medicine, clothing and building materials existing within the community, and of the capacity of the victims to help themselves and each other. Rarely will everyone in the area be stricken, and of those who are, not all will take advantage of the relief offered.

During this period it is necessary to determine what gaps exist in the provision of assistance. Agencies should remember that other relief organizations will also provide aid and their plans should be taken into account before the agency decides which activities it will undertake.

A technique used by INTERTECT to help agencies decide what assistance they will provide is the Gap Identification Sheets shown in Appendixes B and C. By using these sheets, an agency can determine whether or not assistance is needed and if it is redundant.

## (2) Detailed Survey

A more thorough survey should be implemented after the emergency period is over. A complete needs assessment survey form is prepared and a survey team is trained. A sample of this type of survey is shown in Appendix D.

## (3) Structural Surveys

In order to repair or rebuild a house, a thorough structural analysis is necessary. This analysis should evaluate:

- (a) damage to housing as a result of the architectural form;
- (b) materials that may have failed;
- (c) failure of structural components or details;
- (d) quality of workmanship; or
- (e) a combination of these elements.

## D. Quality of the Information

A major problem in disaster assessment is getting good and relevant data. Often surveys get carried away with the amount of data sought and the number of surveys conducted. Common mistakes, for example, are attempts to get an accurate account of the number of houses destroyed and damaged in each community, or the dollar value of losses. It is impossible to collect this data, and even if it could be obtained, it would be highly subjective and of little real value. What is needed is a determination of the general patterns which can be discerned and the relative percentages involved.

#### E. Impact of the Data

Accurate disaster assessment can be a useful tool, not only for structuring the emergency response, but also for general development purposes. Survey activities can point to community problems that could be addressed by a combination of reconstruction and development aid.

### 3. KEY CONCEPTS

A. The needs assessment surveys should determine not only emergency needs but also the capacity of families and communities to meet the needs themselves.

B. Relief needs priorities are relative. It is imperative that assessment determine the priorities of those affected and the most appropriate time to respond to those needs.

C. Virtually all disaster-prone countries of the Third World have long-standing, chronic needs in all sectors. One of the important tasks assessment has is to distinguish between the chronic and disaster-related needs.

### 4. ROLES FOR RELIEF AGENCIES

A. Agencies in the country at the time of the disaster can provide extremely valuable assistance including data collection, information analysis, and distributing survey results. In the immediate aftermath of a disaster, agencies can assist by collecting and sending accurate data to the appropriate authorities. The data should enable authorities to respond to the conditions described.

B. Dissemination of assessment data and analysis of the data are important roles.

C. Other appropriate roles are:

- (1) Providing personnel to help conduct assessments.
- (2) Providing funding.
- (3) Providing facilities for compilation and analysis of the data.
- (4) Providing technical assistance.
- (5) Contracting or arranging for detailed structural analysis.

## 5. AGENCIES NORMALLY INVOLVED IN ASSESSMENT

The following agencies usually participate in assessment:

- A. The local disaster coordinating authorities.
- B. The local military authorities.
- C. U.S. AID - The U.S. government often provides Disaster Area Survey Teams (DAST) to assist in initial assessments.
- D. UNDRO - The U.N. Disaster Relief Office may coordinate survey activities.
- E. PAHO - The Pan American Health Organization may aid the local health authorities in Latin American countries in epidemiological surveillance.
- F. CDC - The Center for Disease Control (U.S.) may assist governments in epidemiological surveillance.
- G. EERI - The Earthquake Engineering Research Institute (U.S.) may send a reconnaissance team to evaluate structural damage.
- H. WERI - The Wind Engineering Research Institute may send a reconnaissance team to evaluate wind damaged structures.
- I. INTERTECT - This firm often conducts both needs surveys for volags and structural damage assessments to traditional buildings.

## 6. LESSONS LEARNED

- A. Disaster assessment requires forethought and planning to determine the critical information needs.
- B. Needs surveys and damage surveys should be conducted separately. Needs surveys should be conducted by local people under the supervision of trained personnel; damage surveys require more professional technical inputs.
- C. Any disaster survey which takes longer than 1 week to conduct and interpret will be of doubtful value.
- D. Surveys should be designed to develop data for long-term program planning as well as for emergency response.
- E. Sophisticated survey techniques such as remote sensing or reconnaissance flights can yield useful information for long-term planning but is usually of only limited value for emergency assessment. Such

data requires highly trained technicians to interpret the information, and the time required for processing and interpretation can take far longer than less sophisticated techniques.

F. Disaster assessment techniques work best when they have been planned before a disaster. Agencies should review their information needs and prepare guidelines for their field staff as a part of their general disaster preparedness activities.

G. Assessments should provide data upon which to evaluate appropriate relief/reconstruction options.

(1) A needs assessment survey can be a major tool for providing the basis for policy formulation and for establishing program goals and objectives.

(2) Needs assessment should be an ongoing process that provides updated information to modify and improve programming.

(3) Common problems in disaster assessment are:

(a) Failure to structure the survey to obtain the most critical data

(b) Failure to adequately train the team conducting the survey

(c) Poor timing (i.e., too early, too late, or at an inappropriate time)

(d) Gathering too much information

(e) Improper interpretation

(f) Failure to disseminate interpreted results

## 7. FURTHER REFERENCES

Committee on International Disaster Assistance, Assessing International Disaster Needs, National Academy of Science, Washington, D.C., 1979.

INTERTECT, "Disaster Assessment", Vol. I, Relief Operations Guidebook, Dallas, Texas, 1974.

Alan J. Taylor, "Assessment of Victim Needs", INTERTECT, Dallas, Texas, 1978.

NEEDS ASSESSMENT

1. Data of head of family at time of interview
    - 1.1 name \_\_\_\_\_
    - 1.2 address \_\_\_\_\_
    - 1.3 city or district \_\_\_\_\_
    - 1.4 state (province) \_\_\_\_\_
    - 1.5 marital status \_\_\_\_\_ married or living together \_\_\_\_\_ single
    - 1.6 age \_\_\_\_\_
    - 1.7 occupation \_\_\_\_\_
    - 1.8 identification number \_\_\_\_\_
    - 1.9 name of spouse (partner) \_\_\_\_\_
    - 1.10 age \_\_\_\_\_ occupation \_\_\_\_\_
    - 1.11 number of minor children \_\_\_\_\_
    - 1.12 sex \_\_\_\_\_ ages \_\_\_\_\_
  
  2. Housing data before the disaster
    - 2.1 tenancy of the house
      - 1 \_\_\_ owner occupied with title
      - 2 \_\_\_ owner occupied without title
      - 3 \_\_\_ rented
      - 4 \_\_\_ occupied (squatter)if the land is rented or occupied  
name of owner \_\_\_\_\_  
address \_\_\_\_\_
    - 2.3 available resources
      - 1 \_\_\_ savings \_\_\_\_\_ amount
      - 2 \_\_\_ monthly savings \_\_\_\_\_ annual \_\_\_\_\_
      - 3 \_\_\_ building materials that can be salvaged \_\_\_\_\_
      - 4 \_\_\_ time available for work \_\_\_\_\_  
per week or other \_\_\_\_\_
  
  3. Conclusions
    - 3.1 total damaged
      - 1 \_\_\_ completed destroyed
      - 2 \_\_\_ seriously damaged
      - 3 \_\_\_ light damage
      - 4 \_\_\_ no apparent damage
    - 3.2 Safety of House
      - 1 \_\_\_ inhabitable
  
  - 3.2
    - 2 \_\_\_ unsafe but can be repaired
    - 3 \_\_\_ unsafe and unrepairable
    - 4 \_\_\_ not sure of safety
  - 3.3 Resolve housing on the same site
    - 1 \_\_\_ rebuild or repair with owners own resources
    - 2 \_\_\_ rebuild or repair with loan
    - 3 \_\_\_ rebuild or repair but does not have funds
  - 3.4 Move to another site
    - 1 \_\_\_ rent at another site
    - 2 \_\_\_ build at another site
  - 3.5 Immediate assistance needed
    - 1 \_\_\_ materials for immediate shelter \_\_\_\_\_  
roofing \_\_\_\_\_
    - 2 \_\_\_ site and materials
    - 3 \_\_\_ help to clean the site
    - 4 \_\_\_ temporary shelter (refugee center)
    - 5 \_\_\_ information on how to rebuild safely
    - 6 \_\_\_ other \_\_\_\_\_
  - 3.6 Long term assistance
    - 1 \_\_\_ building materials
    - 2 \_\_\_ technical information
    - 3 \_\_\_ loan
    - 4 \_\_\_ other \_\_\_\_\_
- (The following information is to be left with the family as a record of their interview and for futher communication).
4. Information for the family
    - 4.1 Evaluation of safety of house
      - 1 \_\_\_ good
      - 2 \_\_\_ needs repair
      - 3 \_\_\_ unsafe without repair
      - 4 \_\_\_ unsafe, must abandon the house
      - 5 \_\_\_ not sure
      - 6 \_\_\_ other

4.2 Your housing plans

\_\_\_\_\_ (the same as 3.3 or 3.4)

4.3 Assistance requested

\_\_\_\_\_ (the same as 3.5 or 3.6)

for more information, go to \_\_\_\_\_

\_\_\_\_\_

or call \_\_\_\_\_

\_\_\_\_\_



# Survey Form: Damage Assessment

## INTERTECT

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### DESCRIPTION:

Size:

Materials:

Photo

Original Cost:

Replacement Cost:

Cost of Repair:

Percent of Damage: 0-25% \_\_\_\_\_ 26-50% \_\_\_\_\_ Over 50% \_\_\_\_\_

### SITE:

Urban \_\_\_\_\_ Rural \_\_\_\_\_

Open \_\_\_\_\_ Protected \_\_\_\_\_ If protected, describe:

Description of Terrain:

### FOUNDATIONS:

Anchoring/Foundation:

Materials Used:

Evidence of Failure:

Preservatives:

WALLS:

Materials Used:

Height & Width:

Configuration

Reinforcement System:

Damage Description/Location

Evidence of Explosion or Implosion:

ROOF AND ROOF SUPPORT:

Roof Configuration: Gable \_\_\_\_\_ Hip \_\_\_\_\_ Shed \_\_\_\_\_ Other \_\_\_\_\_

Roofing Material:

Roof Support System:

Roof/Wall Attachment:

Estimated Pitch:

Overhang:

Description of Damage:

Evidence of Uplift:

DAMAGE TO UTILITIES:

DESCRIPTION OF SEQUENCE OF FAILURE:

**GENERAL INFORMATION:**

**Community:**

**Location:**

**Use:**

**Age:**

**Builder:**

**Wind Speed:**

**Estimated Wind Resistance:**

**Owner/Occupant Plans:**

**OBSERVATIONS:**

**RECOMMENDATIONS:**

**DATE:**