



PACIFIC DISASTER PREPAREDNESS PROJECT

2. Post-Disaster Assessment

B. Field Survey

*by John R. Campbell
and Joseph Chung*



PACIFIC ISLANDS DEVELOPMENT PROGRAM



EAST-WEST CENTER • HONOLULU, HAWAII USA



2. POST-DISASTER ASSESSMENT

B: FIELD SURVEY

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Preface

This manual on field survey forms part B of a two-part set devoted to the problems of post-disaster survey and assessment in Pacific island countries. The set itself is the second in a series of manuals being prepared by the Disaster Preparedness Project of the Pacific Islands Development Program for use by Pacific island government officials involved in all aspects of disaster preparedness and mitigation.¹

The two manuals that form this set are the products of a workshop on Post-Disaster Survey and Assessment held at the East-West Center in 1985, which brought together representatives of Pacific island governments, international agencies, and governments involved in providing post-disaster assistance to the region. The breakdown of this topic into two separate parts reflects the workshop's concern that two very important issues are involved—that of managing disaster information at the central or emergency headquarters level and that of actually collecting information in a post-disaster field survey.

In preparing a guide for conducting a field survey, workshop participants felt that it was not necessary to provide guidance on the topic of management. Moreover, they considered it imperative that the field manual be very brief. Thus the two-set format was adopted. While users of manual A: *Management* should be familiar with manual B: *Field Survey*, the reverse requirement is not necessary.

In preparing the set we would particularly like to thank the participants at the workshop, all of whom provided valuable material for inclusion in the manuals. These contributors are

¹The first manual in the series is *Procedures and Guidelines for Disaster Preparedness and Response*, by Air Vice-Marshal W. Carter. Subsequent manuals will cover such topics as vulnerability analysis, community awareness and training, and mitigation options for Pacific islands agriculture.

listed on the title page. PIDP would also like to take this opportunity to express its thanks to the Office of U.S. Foreign Disaster Assistance for its support not only of this particular activity but also of numerous others carried out by the Disaster Preparedness Project.

Lydia Morgan and Helen Tokushima typed the various draft manuscripts of the manuals. Barbara Yount carried out the editorial work, and Jeanne Hamasaki provided invaluable administrative support. We gratefully acknowledge the contributions of these individuals.

John R. Campbell
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SECTION 1 INTRODUCTION

The purpose of this manual is to provide a basic set of guidelines regarding post-disaster field survey procedures for the Pacific region.

This manual is part B of a two-part set and is intended for use by those people who are instructed to conduct surveys of damage to, and assess the needs of, communities that have been affected by disaster.²

To enable its use in the field situation, the manual has been kept brief. Nevertheless, it provides sufficient basic information to help even an untrained person to conduct a non-technical survey.

Where necessary the manual may be considered as an addition to, and may be used in conjunction with, existing national post-disaster survey instructions.

²In comparison, manual A: *Management* of this set deals specifically with the problems faced, at the emergency management level, in identifying and managing the information requirements in a disaster situation.



SECTION 2

PREPARATIONS FOR FIELD SURVEYS

The purpose of the initial field survey is to quickly gather accurate information, which is essential if the government is to make appropriate and timely decisions regarding relief and other emergency actions.

Detailed follow-up field surveys may be conducted to gather more complete information at a later stage. This type of information usually is used to plan rehabilitation programs such as housing and agriculture.

When preparing for a field survey the following factors should be considered:

- **Where to go**
 - Assembly and departure point(s)
 - Locations to be visited and itinerary
 - Form of transportation that will be used
 - Availability of transportation
- **Time frame of survey**
 - Assembly and departure time(s)
 - Itinerary and distances to be covered
 - Degree of urgency indicated by emergency headquarters

- **Supplies to be taken**
 - Immediate first-aid requirements
 - Food and water for team members
 - Fuel supplies for the survey vehicle or ship
 - Reporting equipment and stationery (e.g., clipboards, pads, survey forms)
 - Communications equipment
 - Maps showing roads, alternative routes, and locations of population settlements
 - For surveys of isolated areas and outer islands, immediate relief supplies of food, water, and shelter may be necessary.

Careful consideration must be given to selection of survey team members, especially when limitations on transportation or accommodation reduce the numbers who can be included. For initial surveys it is important to include, if available,

- **A doctor or medical officer**
- **An agricultural officer**
- Persons who may be able to assist with recording, communications, etc.
- Preferably the medical, agricultural, and other personnel will have had **previous experience** of post-disaster survey and/or **local knowledge** of the survey area.

Survey teams must have a **clear set of instructions** from emergency headquarters to ensure that the desired information needs are met.

The main objectives of field surveys are to collect information on

- **Medical Assistance and Public Health**
- **Water Supply**
- **Food and Agriculture**
- **Housing and Shelter**
- **Government Services, Communications, and Transportation**

Initial surveys may also discover the need for undertaking an urgent **search and rescue** mission or for conducting an **evacuation**. In such cases it is vital that this information is sent as soon as possible to emergency headquarters.



SECTION 3

MEDICAL ASSISTANCE AND PUBLIC HEALTH

The main purposes of post-disaster health and medical surveys are to

- Discover the **number of casualties**;
- Assess the **medical and health needs** of affected communities.

It is important that medical surveys be **accurate**. For this reason all survey teams should include, if possible, at least one person with medical training, preferably a doctor.

Sources of information should be stated if direct observation is not possible. This is particularly important when a doctor is not present or when reports are made of possible casualties or diseases outside the survey area.

Initial survey teams should not slow down their task by providing major first aid or other help to people in devastated areas.

- The main task of the team is to give a full and accurate report to emergency headquarters so that it can decide where help is most needed.
- If major medical assistance is needed, either it should be requested or the team should return when the survey is

finished and those who need the most help have been identified.

- However, when a survey team is sent to an isolated place where other assistance cannot be expected, the survey team may have to provide all urgent help required.

Listing of casualties is a key role of the survey team.

- A doctor or nurse may be able to examine the casualties and decide upon priorities for treatment.
- However, non-medical personnel should report only what they see and what they are told by the patient.

Categories of casualties are

- **Dead** (bodies counted and identified);
- **Missing** (whereabouts unknown);
- **Injured** (e.g., broken limbs, cuts, bleeding);
- **Sick** (e.g., fever, diarrhea, vomiting).

The survey team should report on the state of medical services and include the following:

- The condition of **medical and health facilities**, including number of beds available;
- Number and type of **medical personnel**;
- Condition of **equipment**;
- Amount of **supplies**, including drugs either lost or remaining;
- Availability of **medical transportation**.

The team should also **assess medical needs** such as

- Facilities
- Personnel
- Equipment
- Supplies
- Drugs
- Transportation

The survey team also should report any disease risk factors that it sees, including

- The condition of toilets;
- An increase in insect, rat, or other pest populations;
- Other risks, such as
 - Stagnant water,
 - Poor drainage,
 - Poor hygiene conditions,
 - Substandard kitchens,
 - Overcrowding.

The problems of water supply are covered in Section 4.

Disposal of bodies not only is a medical problem but also, if not done properly, can result in health, legal, and cultural problems. Survey teams should answer the following questions:

- Human bodies
 - What is being done to dispose of bodies?
 - Have all bodies been identified?
 - Have death certificates been issued, if necessary, or have other legal requirements been met?
 - Are there any problems reported concerning bodies?
 - Is any help required with the disposal of bodies?
- Animal bodies
 - Are there animal bodies in the area?
 - What is being done to dispose of these?
 - Is any help needed?

Table 1 is a sample format for medical assistance and public health needs assessment.

TABLE 1 Medical Survey, Sample Format

| | |
|---|---------------------------------------|
| Village/Settlement _____ | Date _____ |
| Island/District _____ | |
| <i>Population:</i> Adults (over 15 years)* _____ | |
| Children (5 to 15 years) _____ | |
| Infants (below 5 years) _____ | |
| Number Dead _____ | |
| Missing _____ | |
| Injured _____ | |
| Sick _____ | |
| <i>Medical Facilities</i> | |
| (circle appropriate answer): | |
| Clinic/Hospital/No Facility | <i>Medical Supplies:</i> |
| Destroyed/Damaged but Usable/Undamaged | Lost _____ |
| Beds Undamaged _____ | Remaining _____ |
| Beds Occupied _____ | Needed _____ |
| Beds Available _____ | |
| <i>Disease Risk Factors:</i> | |
| Toilets: | <i>Medical Personnel (by number):</i> |
| Destroyed _____ | Doctors Available _____ |
| Damaged _____ | Nurses Available _____ |
| Serviceable _____ | |
| Is there any problem with the disposal of sewage _____ | <i>Other Risks:</i> |
| | Stagnant Water _____ |
| | Poor Drainage _____ |
| | Poor Hygiene Conditions _____ |
| | Substandard Kitchens _____ |
| | Overcrowding _____ |
| | Insect/Rat Infestation _____ |
| | Is Spraying Necessary _____ |
| <i>Remarks:</i> _____ | |
| Name of Surveyor _____ | |

*The ages given here are intended only as a guide. In some countries a different age breakdown is used to distinguish adults from children and children from infants.

SECTION 4

WATER SUPPLY

The purpose of a post-disaster water supply survey is to **examine the availability of safe water** for drinking and other uses and to assess the need to supplement these supplies when they are not adequate.

Survey team members should be aware that final assessment of the contamination of water can be done only in a laboratory by trained personnel.

- Sterile containers for water samples should form part of the equipment of any survey team required to examine water supplies.

As indicated in Table 2, survey teams should assess

- **Population** affected by low or contaminated supply.
- **Supply.**
 - Usual sources;
 - Present availability;
 - Causes of problems in supply, such as
 - Wells dry
 - Streams stopped flowing
 - Pipe breaks
 - Dams empty

TABLE 2 Water Supply Survey, Sample Format*

Village/Settlement _____ Date _____
 Island/District _____

Total Population _____

| | |
|---|---|
| <i>Source of Supply</i> (Indicate as appropriate): | <i>Means of Storage</i> (Indicate as appropriate): |
| Mains to house _____ | Underground Reservoir _____ |
| Mains to village/street tap _____ | Surface Level Reservoir _____ |
| Communal Wells _____ | Overhead Tank _____ |
| Individual Wells _____ | |
| River/Stream _____ | |
| Roof Catchment _____ | |

| <i>Disaster Impact</i> | <i>Drinking</i> | <i>Household</i> | <i>Agriculture</i> | <i>Industrial</i> |
|------------------------------------|----------------------------------|------------------|--------------------|-------------------|
| | <i>(Indicate as appropriate)</i> | | | |
| Supply Not Affected | _____ | _____ | _____ | _____ |
| Supply Reduced But Adequate | _____ | _____ | _____ | _____ |
| Supply Inadequate | _____ | _____ | _____ | _____ |
| No Supply Available | _____ | _____ | _____ | _____ |
| Supply Contaminated | _____ | _____ | _____ | _____ |
| Supply Suspected of Contamination | _____ | _____ | _____ | _____ |
| Supply Unaffected By Contamination | _____ | _____ | _____ | _____ |

Estimated Water Supply Needs:

Quantity _____

Duration _____

Description of damage to supply, storage, and/or distribution system:

Name of Surveyor _____

*This table is intended as a guide to the wide range of considerations necessary when water supply is assessed. It should be noted that many of the categories listed in the table are not likely to be appropriate in rural areas, and surveyors may alter their own formats accordingly.

- Tanks damaged/silted up
- Roof catchments destroyed
- Indicate assistance required to solve these problems.
- **Contamination.**
 - If contamination is suspected, the possible causes or indicators should be outlined, such as
 - Human or animal bodies in the water
 - Sewage overflows nearby
 - Discoloration of the water
 - Saltiness of the water
 - Diarrhea or other illness in the population

The team should also **assess water needs**, including

- Whether or not water is needed;
- The purpose for which it is required:
 - Drinking
 - Other household uses
 - Agriculture
 - Industrial
- Quantity needed;
- How often it will be needed;
- Additional water storage facilities needed.



SECTION 5

FOOD AND AGRICULTURE

The purpose of a post-disaster food and agriculture survey is to gather information that will be used to determine

- Food relief needs
- Agricultural rehabilitation plans

In initial surveys the main concern is to identify immediate food needs. When evaluating food availability it is important to remember that

- Some crops (e.g., mature yams) will remain edible for some time, if there is no waterlogging;
- Many other maturing and mature crops can be salvaged by immediate harvesting;
- Harvested crops, if not too badly damaged, may keep for up to two weeks or more under natural conditions or be preserved by traditional or other known methods.

An assessment of **immediate food needs** also should consider non-agricultural sources of food such as

- Wild food resources;
- Fisheries, other marine resources, and fishing equipment;
- Commercial and other stores of food;
- Employment.

Evaluation of damage to crops is extremely difficult. Table 3 outlines the main **indicators of damage** for the major Pacific crops.

- In assessing damage to root crops, it is particularly important to inspect the tubers and corms of one or two plants of each affected variety irrespective of above-ground damage.
- Livestock losses should also be recorded, including information on the numbers and types of animals lost.

Methods for describing damage should be standardized. Losses may be described in terms of

- Numbers of plants or mounds destroyed;
- Areas of crops destroyed;
- Losses expressed as a percentage of total.

While percentage figures are only general, they are probably the best because the accurate estimate of areas is extremely difficult and because counting each individual plant destroyed is too time consuming. Whatever method is chosen, it should be used consistently throughout the entire survey.

Because of time limitations and the scattered nature of Pacific islands agriculture, the surveyor may have to make an assessment from only a limited sample. **As many gardens as possible** should be examined so that realistic assessments can be made.

Table 4 is a sample format for assessing immediate food needs. Often agricultural officers who participate in field surveys are required to prepare their own survey reports for their departments, and it is suggested that the format shown here could be used as a basis for the preparation of a final report.

Long-term feeding programs and agricultural rehabilitation planning are usually based on **detailed follow-up surveys**, which are normally conducted about two weeks after the disaster. These surveys are usually the responsibility of agriculture departments.

When conducting a detailed survey it is important to provide the following information:

- Detailed description of damage to both food and cash crops (crop by crop);
- Detailed summary of livestock losses;
- Estimate of quick maturing planting materials needed;
- Estimate of inputs required for long-term rehabilitation, including
 - seeds/planting materials;
 - fertilizers and pesticides;
 - animal feed;
 - materials to repair/replace farm property (e.g., copra drier, fencing);
- List of additional requirements such as land clearing equipment.

Table 5 shows a sample format for assessing agricultural rehabilitation needs.

TABLE 3 Indicators of Damage to Crops¹

| CROPS | Cyclones/Hurricanes | | | | | Flooding | | | Drought | |
|---------------------|---------------------|-------------|--------------------|--------------------|--------|-------------------------|--------------|--------|---------|---------|
| | Uprooted | Defoliation | Leaves Shredded | Saltwater Spray | Lodged | Saltwater Inundation | Water-logged | Lodged | Silted | Wilting |
| Taro—Immature | x | o | o | o | o | x | o | o | o | x |
| Taro—Mature | • | o | o | o | o | • | • | • | • | • |
| Sweet Potatoes | • | o | o | o | - | • | • | • | • | • |
| Yams—Immature | x | o | o | o | o | x | x | x | x | x |
| Yams—Mature | • | o | o | o | o | • | • | • | • | • |
| Cassava—Immature | x | o | o | o | o | x | x | o | x | x |
| Cassava—Mature | x | • | • | o | • | • | • | • | • | • |
| Sago Palm | x | o | o | o | x | o | o | x | o | o |
| Coconut | x | o | o | o | x | - | o | x | o | o |
| Cocoa | x | o | o | o | o | x | o | x | o | o |
| Citrus | x | o | o | o | o | x | o | o | o | o |
| Mango | x | o | o | o | x | o | o | x | o | o |
| Coffee | x | o | o | o | x | x | o | x | o | o |
| Breadfruit | o | o | o | o | o | o | o | o | - | o |
| Bananas | x | o | o | o | x | x | o | x | o | o |
| Pawpaw | x | o | o | o | x | x | x | x | o | x |
| Rice—Wetland | x | o | o | o | o | x | o | o | o | x |
| Rice—Dryland | x | o | o | o | o | x | o | o | o | x |
| Assorted Vegetables | x | x | x | x | o | x | x | x | o | x |
| Sugarcane | x | o | o | o | o | x | o | x | o | o |

| | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|---|
| Pineapple | x | o | o | o | o | x | o | o | o | o |
| Passionfruit | x | o | o | x | o | x | x | o | o | o |
| Kava | • | • | o | o | o | • | • | o | o | o |
| Ginger | x | o | o | x | o | x | x | o | o | o |
| Vanilla | o | o | o | o | o | o | o | o | o | o |
| Maize | x | x | o | x | o | x | o | o | o | o |

Note 1: The seriousness of the damage depends on the severity of the event. Indicated here are the possible effects of a severe event. Other natural occurrences such as earthquakes and volcanic eruptions with their accompanying landslide, tsunami, ashfall, lava flow, etc., often result in destruction to crops.

- Keys:
- x = *Destroyed*. Crops will not survive and have to be replaced or replanted. Damage incurred renders the crops useless for consumption or for sale.
 - = *Destroyed but salvageable*. The crop has matured, and although it will not recover, it can be salvaged for consumption or for sale, or be stored or preserved if immediately harvested or gathered following the event.
 - o = *Partly Damaged*. The crops are damaged but will recover. In most cases, crops require some inputs such as fertilizer, removal of debris, pruning, propping, etc., to ensure full recovery.
 - = *Not Applicable*. The indicators of damage do not apply due to the characteristics of the crops. The crops may not be too badly affected.

TABLE 4 Agricultural Survey for Assessment of Immediate Food Needs, Sample Format

Village/Settlement _____ Date _____
 Island/District _____

Damage to crops:

| Crops | Area | Percentage | | |
|-------|-------|------------------------------|--------------------------|-----------|
| | | Destroyed (Unsalvageable) | Damaged (Salvageable) | Undamaged |
| 1. | _____ | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ | _____ |
| 5. | _____ | _____ | _____ | _____ |
| 6. | _____ | _____ | _____ | _____ |
| 7. | _____ | _____ | _____ | _____ |
| 8. | _____ | _____ | _____ | _____ |
| 9. | _____ | _____ | _____ | _____ |
| 10. | _____ | _____ | _____ | _____ |

Livestock Losses:

| Livestock Type | Dead | Missing | Remaining |
|----------------|-------|---------|-----------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |
| 5. | _____ | _____ | _____ |
| 6. | _____ | _____ | _____ |

Non-agricultural Food Resources (Seafood, etc.):

Recommendations and Comments:

Name of Surveyor _____

**TABLE 5 Agricultural Survey for Assessment of Rehabilitation Needs,
Sample Format**

Village _____ Date _____
Island/District _____

(a) Crop Damage:

| <i>Crop</i> | <i>Area</i> | <i>Destroyed</i> | <i>Percentage</i> | | <i>Estimated Cost of Losses</i> |
|-------------|-------------|------------------|-------------------------------------|------------------|---|
| | | | <i>Damaged but will Recover</i> | <i>Undamaged</i> | |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
| 10. | | | | | |

Comments on Expected Recovery and Harvest Period and Relief Needs:

(b) Crop Rehabilitation Requirements:

| <i>Inputs Required</i> | <i>Quantity</i> | <i>Estimated Cost</i> |
|------------------------|-----------------|-----------------------|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |

Comments:

TABLE 5 (continued)

(c) Livestock Losses:

| <i>Items</i> | <i>No. Lost</i> | <i>No. Remaining</i> | <i>Estimated Cost of Losses</i> |
|--------------|-----------------|----------------------|---------------------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |

Comments: _____

(d) Damage to Farm Properties (e.g., copra driers, pigsties):

| <i>Items</i> | <i>No. Lost</i> | <i>No. Remaining</i> | <i>Estimated Cost of Losses</i> |
|--------------|-----------------|----------------------|---------------------------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |

Comments: _____

(e) Assessment of Fisheries, Fishing Equipment, and other Marine Resources:

(f) Additional Requirements (e.g., chainsaws, heavy clearing equipment):

(g) General Recommendations:

_____Name of Surveyor _____

SECTION 6

HOUSING AND SHELTER

The purpose of a housing and shelter needs assessment is to determine immediate shelter requirements and to anticipate longer-term rehabilitation and reconstruction needs.

Information obtained from an initial survey of **immediate shelter needs** usually is used to organize a rapid response, if required, and need not be very detailed. Specific information that should be collected includes

- The name or location of the village or community;
- Number of people in need of shelter;
- The extent of damage or destruction of houses;
- Other dangers that may be facing the community;
- The type and amount of shelter presently available.

A sample village shelter survey format is given in Table 6.

Even in initial surveys governments may want to gather detailed information to determine **long-term rehabilitation or reconstruction needs** although this information is usually collected in a detailed follow-up survey. The basic requirements for a detailed household damage assessment are

- Location of the house (usually name of village it is in);
- Name and occupation of the head of household;

TABLE 6 Village Shelter Survey, Sample Format

Village/Settlement _____ Date _____
 Island/District _____

Total Population _____
 Population Left Without Shelter _____

| <i>House Built of:</i> | | | |
|------------------------|-----------------------|----------------------------|--------------|
| | <i>Bush Materials</i> | <i>Permanent Materials</i> | <i>Total</i> |
| Destroyed | _____ | _____ | _____ |
| Damaged/Usable | _____ | _____ | _____ |
| Damaged/Unusable | _____ | _____ | _____ |
| Undamaged | _____ | _____ | _____ |

Other Threats to Settlement: Landslide _____

Flooding _____

Coastal Erosion _____

Other (Specify) _____

Other Shelter Available: Yes _____ Where _____
 No _____

Name of Surveyor _____

- Number of people living in the house;
- Housing materials;
- Present condition of house (is it usable?);
- Extent of damage (e.g., destroyed, damaged/unusable, damaged/usable, undamaged);
- Alternative sources of shelter;
- Damage to other structures (e.g., kitchens, toilets);
- Insurance status of the house;
- Ownership or lease arrangements of house and land;
- Safety of the land.

In describing damage to homes, **consistency is essential**. It is therefore necessary to have a straightforward classification of degrees of damage. The categories most commonly used are

- **Destroyed.** This refers to those houses that cannot be lived in and **need to be replaced**. Destroyed buildings may be
 - Completely missing (blown/washed away, buried, etc.);
 - Completely destroyed although materials are still on site.
- **Damaged.** This refers to those houses that **need to be repaired** rather than totally replaced. The two categories of damaged homes are
 - Damaged and cannot be lived in;
 - Damaged, but can be lived in.
- **Undamaged.** This refers to homes that need only minor repairs or that received no damage at all.

The type of survey form to be used will vary from country to country depending on local conditions, housing styles, and national requirements. Table 7 is a sample format for a detailed post-disaster housing survey.

Surveyors are often required to assess damage to other buildings such as government or community property. In particular, information is needed on the state of schools. To fulfill these re-

**TABLE 7 Individual Dwellings/Buildings Damage Survey,
Sample Format**

Village/Settlement _____ Date _____

Island/District _____

Head of Household _____

Occupation of Head _____

Number of Persons in Household _____

Description of Dwelling/Building:

Roofing: Thatch _____
Iron _____
Other _____ Describe _____

Walls: Bamboo _____

Reeds _____

Sawn Timber _____

Masonite _____

Iron _____

Concrete Block _____

Other _____ Describe _____

Description of Damage:

Destroyed _____

Damaged/Unusable _____

Damaged/Usable _____

Alternative Shelter Available _____

Damage to Outhouses and Other Structures:

Toilets: Flush _____

Waterseal _____

Pit _____

Watertanks _____

Kitchens _____

House Insured: Yes _____ No _____

House is: Owned _____ Land is: Owned _____

Leased _____ Leased _____

Condition of Land: Safe _____ Unsafe _____

Name of Surveyor: _____

quirements the assessment of school buildings should follow a pattern similar to that of housing:

- Destroyed
- Damaged and cannot be used for school purposes
- Damaged but can be used for school purposes
- Undamaged

It is also important to include information on the type of buildings (e.g., traditional, modern) and, where relevant, on the condition of teachers' quarters.



SECTION 7

GOVERNMENT SERVICES, COMMUNICATIONS, AND TRANSPORTATION

The immediate purpose of post-disaster assessment of communications and transportation is to ascertain the state of communications and access between affected areas, emergency headquarters, and sources of relief.

Information on damage, destruction, and disruption of government infrastructure, communications, and transportation linkages is also necessary for planning the restoration of normal conditions.

Post-disaster survey teams should assess the following:

- **Government infrastructure**
 - Who is in charge? (usually at district or provincial level)
 - Is assistance needed?
- **Communications**
 - Is communication between affected areas, emergency headquarters, and sources of relief satisfactory?
 - Is re-instatement of normal systems proceeding?
 - Is assistance required?
 - Are public broadcasts being received?

- **Roads and bridges**
 - Are the essential access roads open?
 - Specify which ones.
 - What is causing the blockage?
 - To what type of vehicle?
 - What other important roads are blocked?
 - Specify where.
 - What is causing the blockage?
 - How long will it take to open for use?
 - What extra assistance is required?
- **Airstrips and helicopter landing sites (helipads)**
 - Is the airstrip functioning?
 - Are there any problems?
 - If applicable, is there a suitable area for a helipad?
 - Is an airdrop practicable?
 - If so, where and how will the drop area be marked?
- **Wharves and waterways**
 - Can supplies be landed by boat?
 - Any particular problems?
 - Can waterways be used for access?
- **Electricity**
 - Is generating system working?
 - Are there dangers from broken power lines?
 - Is the restoration of the power distribution system proceeding?
 - What assistance is required?
- **Transportation**
 - What transportation is available?
 - Is it sufficient for needs?
 - What types of fuel are available?
 - Where?
 - In what quantities?

- **Public facilities and morale**

- What is the general state of public morale?
- Are schools able to function/what percentage are damaged?
- Are churches serving as rallying points?
- Are community welfare organizations working?
- What assistance do they require?
- What other public facilities are available?
- What other public facilities are damaged?
- General comments.



SECTION 8

REPORTING

Thus far this manual has concentrated on how to **collect** post-disaster information. It now addresses the problem of making this information available to headquarters.

Reporting usually involves two main parts:

- Regular daily contact with emergency headquarters;
- Detailed final report by team leader upon completion of survey.

In all cases reporting should be

- **Concise** (to the point);
- **Clear** (unconfusing);
- **Relevant** (responding to terms of reference or set of instructions);
- **Consistent** (containing the same type of information for all places).

Regular daily contact with emergency headquarters is most commonly carried out by radio or telephone.

- It is therefore important that persons with communications experience are included in the survey team to ensure that regular daily contacts can be maintained.

- Information passed on at this level must be brief, and it is usually restricted to urgent matters and concise summaries of information for use at emergency headquarters.
- It is important to maintain daily contacts because emergency headquarters also may have important information or instructions for the survey team.

In most cases the reporting will be the responsibility of the team leader although specialist reports may be made by individual team members (e.g., agriculture, health).

At the completion of the survey, the team leader usually submits a detailed report to emergency headquarters presenting, in summarized form, the information gathered by the team.

A typical team leader's report should include

- Heading;
- Date of survey;
- Composition of survey team;
- Itinerary of survey trip;
- Summary of damage/destruction by island or district. This should include:
 - An indication of island or district population;
 - Summary of health situation including deaths and status of injured;
 - Summary of housing, school, and agricultural surveys (usually with summary tables showing damage at village or settlement level);
 - Summary of damage to government services, roads, transportation facilities, and communications;
 - Items of specific interest such as the nature of community's own response or absence of it or other unusual circumstances;
 - Status of relief and medical assistance given;
 - Discussion of general situation and outlook;
 - Overall summary of situation in area surveyed;
 - Outline of problems (if any) experienced in survey.

Table 8 is a sample format that may be used in preparing a team leader's report.

Team members usually prepare specialized reports (e.g., health, water supply, agriculture, housing) for submission to specialists at emergency headquarters or for use within the relevant government departments. In these cases the reports should follow the formats adopted in the collection of information.

TABLE 8 Team Leader's Report, Sample Format

Nature or Name of Disaster: _____

List of Team Members: _____

Itinerary: _____

Summary of Damage for Each Island or District:

(a) Population and Health:

| | <i>Village Names</i> | | | | | |
|----------------------------|----------------------|------------------|------------------|------------------|-------------|--------------|
| | <i>Village 1</i> | <i>Village 2</i> | <i>Village 3</i> | <i>Village 4</i> | <i>etc.</i> | <i>Total</i> |
| Households | _____ | _____ | _____ | _____ | _____ | _____ |
| Deaths | _____ | _____ | _____ | _____ | _____ | _____ |
| Missing | _____ | _____ | _____ | _____ | _____ | _____ |
| Injured | _____ | _____ | _____ | _____ | _____ | _____ |
| Sick | _____ | _____ | _____ | _____ | _____ | _____ |
| Adults (over 15 years) | _____ | _____ | _____ | _____ | _____ | _____ |
| Children (5-15 years) | _____ | _____ | _____ | _____ | _____ | _____ |
| Infants (below 5 years) | _____ | _____ | _____ | _____ | _____ | _____ |
| Total Popn.: | _____ | _____ | _____ | _____ | _____ | _____ |
| State of: | | | | | | |
| Medical Facilities | _____ | _____ | _____ | _____ | _____ | _____ |
| Medical Personnel | _____ | _____ | _____ | _____ | _____ | _____ |
| Disease Risk Factors | _____ | _____ | _____ | _____ | _____ | _____ |
| General Comments | _____ | _____ | _____ | _____ | _____ | _____ |

TABLE 8 (continued)

(b) Water Supply:

Normal Sources of Supply and Storage _____

Impacts of Disaster _____

Estimated Water Supply Needs:

| | <i>Village 1</i> | <i>Village 2</i> | <i>Village 3</i> | <i>Village 4</i> | <i>etc.</i> | <i>Total</i> |
|----------|------------------|------------------|------------------|------------------|-------------|--------------|
| Quantity | _____ | _____ | _____ | _____ | _____ | _____ |
| Duration | _____ | _____ | _____ | _____ | _____ | _____ |

General Comments _____

(c) Agriculture and Food:

Percentage Crop Losses

| <i>Crop</i> | <i>Village 1</i> | <i>Village 2</i> | <i>Village 3</i> | <i>Village 4</i> | <i>etc.</i> | <i>Total</i> |
|--------------|------------------|------------------|------------------|------------------|-------------|--------------|
| Taro | _____ | _____ | _____ | _____ | _____ | _____ |
| Yams | _____ | _____ | _____ | _____ | _____ | _____ |
| Cassava | _____ | _____ | _____ | _____ | _____ | _____ |
| Sweet Potato | _____ | _____ | _____ | _____ | _____ | _____ |
| Breadfruit | _____ | _____ | _____ | _____ | _____ | _____ |
| Coconuts | _____ | _____ | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ | _____ | _____ |

Livestock Dead or Missing

| <i>Livestock</i> | <i>Village 1</i> | <i>Village 2</i> | <i>Village 3</i> | <i>Village 4</i> | <i>etc.</i> | <i>Total</i> |
|------------------|------------------|------------------|------------------|------------------|-------------|--------------|
| Pigs | _____ | _____ | _____ | _____ | _____ | _____ |
| Cattle | _____ | _____ | _____ | _____ | _____ | _____ |
| Goats | _____ | _____ | _____ | _____ | _____ | _____ |
| Chickens | _____ | _____ | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ | _____ | _____ |
| | _____ | _____ | _____ | _____ | _____ | _____ |

General Comments _____

TABLE 8 (continued)

(d) Housing:

| | <i>Village 1</i> | <i>Village 2</i> | <i>Village 3</i> | <i>Village 4</i> | <i>etc.</i> | <i>Total</i> |
|---------------------------------|------------------|------------------|------------------|------------------|-------------|--------------|
| Population left without shelter | _____ | _____ | _____ | _____ | _____ | _____ |
| Destroyed | _____ | _____ | _____ | _____ | _____ | _____ |
| Damaged (Unusable) | _____ | _____ | _____ | _____ | _____ | _____ |
| Damaged (Usable) | _____ | _____ | _____ | _____ | _____ | _____ |
| Undamaged | _____ | _____ | _____ | _____ | _____ | _____ |

Schools:

Classrooms _____

Teachers' Quarters _____

General Comments (other threats to settlement, other shelter available, etc.)

(e) Government Services:

Communications: _____

Roads and Bridges: _____

Airfields: _____

Wharves and Waterways: _____

Electricity: _____

Transportation (types of transportation and fuel availability): _____

Other: _____

TABLE 8 (continued)

(f) Actions Taken and Assistance Given: _____

(g) General Conclusions: _____

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The Pacific Islands Development Program (PIDP) at the East-West Center helps meet the special development needs of the Pacific islands through cooperative research, education, and training. Its quality in-depth research provides island leaders with information on alternative strategies to reach development goals and meet the needs of the island peoples.

PIDP serves as the secretariat for the Pacific Islands Conference, a heads of government organization, and for the Standing Committee, composed of eight island leaders. PIDP's projects—requested and reviewed by the Standing Committee—respond to the development themes discussed at the First (1980) and Second (1985) Pacific Islands Conference. This process is unique within the East-West Center and in other research and educational organizations serving the Pacific.

Since 1980 PIDP has conducted research and training in nine areas: appropriate government systems, aquaculture, disaster preparedness and rehabilitation, energy, faculty development, indigenous business development, nuclear waste disposal, regional cooperation, and roles of multinational corporations in the Pacific tuna industry.

At its Tenth Meeting in January 1986, the Standing Committee endorsed a set of new projects for PIDP. These are health and nutrition, roles of multinational corporations—petroleum marketing and supply, Pacific youth, policy analysis, role of the private sector in Pacific development, and urban and rural life.