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ers and their effects . . . our communities . . . hazards and vulnerabilities in our communities . .

# Disaster Preparedness and Mitigation

An In-Service  
Training Module

Peace Corps



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# **Disaster Preparedness and Mitigation (DPM):**

**An In-Service Training Module**



**Peace Corps**  
**September 2001**



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*Plan Comunal de Emergencia*, Comisión Nacional de Emergencia, Costa Rica.

*Plan Familiar de Emergencia*, 2da edición, Comisión Nacional de Emergencia, Costa Rica, 1994.

*Taller de Instructores del Programa Masivo de Capacitación Sobre Prevención y Manejo de Desastres Nacionales*, Comisión Permanente de Contingencias, (COPECO), Honduras.

*Mitigación de Desastres*, Programa de Entrenamiento para el Manejo de Desastre, PNUD, 1999.

*Community-Based Disaster Preparedness Training Program*, Peace Corps/Haiti, 1999.

The materials development team in Washington included Crisis Corps; Judee Blohm and Ron Savage from the Center for Field Assistance and Applied Research; and Pamela Pine from the Futures Group.

## Acronym List

APCD	Associate Peace Corps Director
CDERA	Caribbean Disaster Emergency Response Agency
CDM	comprehensive disaster management
DPM	disaster preparedness and mitigation
EAP	Emergency Action Plan
FEMA	Federal Emergency Management Agency
IST	In–Service Training
MOH	Ministry of Health
NDMC	National Drought Mitigation Center
NGO	non–governmental organization
PACA	Participatory Analysis for Community Action
PC	Peace Corps
PCV	Peace Corps Volunteer
PST	Pre–Service Training
SADC	South African Development Community
USAID	U.S. Agency for International Development



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**Participant Workbook**





# Introduction

## *Why Disaster Management Is Important*

The developing world will continue to be hardest hit by the cascading effects of climate change, environmental degradation and population pressures. Fires, droughts and floods from [the 1998] El Niño claimed 21,000 lives while the deforestation in China's Yangtze basin contributed to the flooding which affected the lives of 180 million people. In Russia, the extreme winter weather turned into a disaster when it struck a society where 44 million people are living in poverty, one million children are homeless, and tuberculosis rates are skyrocketing. This insidious combination is throwing millions more into the path of potential disaster. Already, 96 percent of all deaths from natural disasters occur in developing countries. One billion people are living in the world's unplanned shanty towns and 40 of the 50 fastest growing cities are located in earthquake zones. Another 10 million people live under constant threat of floods.

—Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). International Federation of the Red Cross and Red Crescent. "World Disasters Report Predicts a Decade of Super-Disaster." Geneva, Switzerland: International Federation of the Red Cross and Red Crescent, June 24, 1999.

Natural disasters kill one million people around the world each decade, and leave millions more homeless each year. Economic damages from natural disasters have tripled in the past 30 years—rising from \$40 billion in the 1960s to \$120 billion in the 1980s.

—U.S. Agency for International Development, Office of Foreign Disaster Assistance website ([www.info.usaid.gov/hum\\_response/ofda](http://www.info.usaid.gov/hum_response/ofda)), 2000. United Nations. "Disasters: A Deadly and Costly Toll Around the World." New York: UN, 1997.

The continued worsening effects of natural disasters, particularly on the world's poor, caused the United Nations to designate the 1990s as the International Decade for Natural Disaster Reduction. The purpose was to reduce losses caused by such phenomena as earthquakes, volcanic eruptions, landslides, tropical cyclones, floods, and droughts. Unfortunately, although some progress was made during the decade, losses resulting from disasters continue to grow as more people and structures occupy hazardous areas.

The negative consequences of disasters can be tremendous. For example, in many places in Honduras, flooding has steadily gotten worse because of deforestation and inappropriate agricultural practices. The massive rainfall accompanying Hurricane Mitch in 1998 resulted in a disaster of gigantic proportions, destroying homes, bridges, roads, and crops and flooding towns and villages in nearly the entire country. The communities had to deal with the homeless, provide medical care, ensure clean food and water, and reestablish basic services. Most communities were caught unprepared, although the ability for even the poorest community to pull together and solve their most pressing problems was impressive. Disasters in other parts of the world—Hurricane Georges in the Caribbean, the drought in the Horn of Africa (750,000 people remain affected by drought conditions in Somalia and 3.3 million in Kenya [USAID, 2000]), 1999 floods in Mozambique, and numerous disasters in Bangladesh—have similarly challenged the ability of communities to maintain public safety and avoid economic disaster. As a result, an increasing number of communities are taking disaster preparedness seriously, and would like to establish emergency plans that specify the resources available to them should future natural disasters hit.

What is disaster preparedness and mitigation (DPM) and why train Peace Corps Volunteers to address it? The Caribbean Disaster Emergency Response Agency (CDERA) provides a good working definition of comprehensive disaster management (CDM):

CDM involves all actions required to ensure that a country or jurisdiction has the capability to deal with all types of hazards, at all phases of the Disaster Management Cycle: Prevention and Mitigation, Preparedness, and Response and Recovery by coordinating wide-ranging actions and utilizing all necessary resources available from numerous agencies.

CDM is

Multifaceted in nature

Multidisciplinary in approach

Multisector in impact

Integrated by sound management principles and practices

Comprehensive in concept

—Caribbean Disaster Emergency Response Agency website ([www.cdera.org](http://www.cdera.org)), July 2000. Report from the Third Caribbean Conference on National Hazards, Barbados, October 13–15, 1999.

Peace Corps Volunteers live and work in communities that can be affected by natural disasters. Volunteers can and do make an enormous difference to the people around them in many aspects of life. They can make a difference in the area of disaster management as well.

## *Purpose, Goals, and Objectives of the In–Service Training*

The Peace Corps’ *Disaster Preparedness and Mitigation Pre–Service Training Module* provides an initial introduction. This In–Service Training (IST) module builds on the Pre–Service Training (PST) module but also provides enough background so that the IST can be used alone if Volunteers did not receive the PST. The purpose of the Peace Corps’ disaster management training is to provide Volunteers and their Counterparts with information to help them minimize their own personal risk and the risk to those around them.

This IST training module provides some duplication of information from the PST, as well as more in–depth information about the ways in which Peace Corps Volunteers and their Counterparts can be useful before, during, and after a disaster. This is purposeful; if a disaster–related PST was held, there may be a gap of up to six months between the PST and the IST, thereby necessitating a review of information. If it was not held, the information in the IST that duplicates the information in the PST will be needed. Additionally, only one type of training may be needed due, for example, to technical expertise of the Volunteers (and Counterparts), or one workshop may not be feasible due to time or logistical constraints. While the PST training module focuses on basic information, knowledge building, and safety, the IST module provides a review of that information and, also moves to a community–centered focus.

At the completion of this IST disaster management module, Volunteers will be able to prepare themselves for most eventualities and accomplish the central goals of Peace Corps’ training in disaster management, which are to increase participants’ abilities to:

1. Maintain their own safety and security during emergency and disaster situations; and
2. Help communities to develop comprehensive preparedness plans, institute mitigation measures, and increase their capacity to cope with disaster situations.

The overall objectives of the IST disaster management module are to:

1. Raise the consciousness of workshop participants about the importance of disaster preparation and mitigation; and
2. Reduce the vulnerability of participant communities and lessen the impact of natural disasters through training community leaders and Peace Corps Volunteers in community disaster preparedness.

Part One of this module aims to:

1. Help Volunteers review issues and information presented during the PST disaster management training module, or incorporate new background information on disaster management if they did not participate in a disaster management PST; and
2. Increase knowledge about working with and through community involvement.

Part Two of this module aims to:

1. Provide participants with a more in–depth understanding of community disaster–related activities; and
2. Give participants the skills they need to assist in disaster management planning within their communities.

## *Who Is This Module For?*

This training is designed to provide participants with information that they can use during their service to help protect themselves and others. These training modules are for Volunteers and their Counterparts in all Peace Corps sectors: health workers, agricultural extensionists, teachers and others.

The module is presented in such a way that Peace Corps trainers with general or technical backgrounds (whether in environment, agriculture, education, or community development sectors), can be trained to conduct the workshop and present the information. Some trainers will use all or most of these exercises and others will use only selected parts. In either case, trainers will probably want to supplement sessions from the module with additional information and/or sessions of their own.

The materials can be used with any Volunteer group (the primary audience) that Peace Corps staff believes it is important to reach with this information. For example, there may be more need in some countries based on the host country's history of disasters. This is true whether the participant group has a technical or generalist background, or whether the group is made up of individuals with varied backgrounds. Additionally, Counterparts, who may take part in ISTs, will gain valuable knowledge and be able to address the needs of their communities. Throughout the training module, individuals taking part in the training are referred to as participants rather than Volunteers because of the likelihood of this dual audience. Finally, the broader public communities served by Peace Corps will benefit from this training.

## *How To Use This Training Module*

Trainers can use this module in different ways, depending on a variety of factors, including:

- The background of the participants
- The particular jobs of the participants



- The trainer’s own background and experience
- The stage Volunteers are in during their service
- The level of awareness of the target population

The entire module may comprise an IST or you may use only parts of the module and combine it with additional materials. Experienced trainers may prefer to use some of their own training materials to cover certain topics in the module, as well as topics that are not addressed.

You may be able to use some exercises as they are designed, with little or no adaptation. For others, you may want to cover the topics addressed with changes to the exercises. The goal is to address as many of the key topics as are useful to the participants.

## *How Is the IST Module Organized?*

This module consists of four sections:

1. The Trainer’s Guide.
2. Part One: Disaster Preparedness and Mitigation.
3. Part Two: The Role of the Volunteer in Disaster Preparedness and Mitigation.
4. The Appendices: Background and Reference Material.

Generally, this module is intended to achieve a balance between the technical and practical aspects of disaster management. Part One provides an overview of basic information regarding terminology, historical events, theoretical information, and background information. Part Two provides the participants a chance to practice newly taught skills in the classroom and in the field. The materials are organized so that earlier sessions prepare participants for subsequent ones. Both sessions make use of the exercises in the accompanying Workbook, which includes practical exercises that help participants gain the skills they need to provide assistance in community DPM. The Appendices contains supporting information for participants as they learn about and become involved in DPM activities.

## *Content of the Module: An Overview*

### **The Trainer’s Guide**

The Trainer’s Guide contains an overview of the module, including the purpose, how it is designed, and the audience. It provides a brief synopsis of each section’s content, and notes on delivering the sessions.

### **Part One: Disaster Preparedness and Mitigation**

Part One provides an overview of disaster management, with a focus on addressing the needs of communities. The sessions in Part One provide participants with fundamental information about disasters and how to respond to them, and allows the participants to call on information familiar to them to better understand the conditions in their host country and communities. The exercises in Part One help participants identify what is important in helping them provide for their own and their communities’ safety, plan for emergencies, respond appropriately should a natural disaster occur, and minimize human disaster. The trainer should feel free to supplement the information in the training module by speakers and audiovisual presentations.



## Part Two: Community Disaster Preparedness Follow–Up

This section provides participants a chance to sharpen community planning and activity skills. It also strengthens the participants' abilities to play important and active roles in their communities in the area of DPM.

### The Participant Workbook

The Participant Workbook provides a means by which participants can structure their learning about community preparedness and practice their new skills. Parts One and Two of the training refer the participants to exercises and skill–building activities in the Workbook.

### The Appendices

The Appendices provide a number of supplemental and reference materials that may be useful to the participants during and after the training.

### Notes on Delivering These Sessions

Trainers should read each session, which contains trainer notes and participant handouts. Advance reading will help you to determine what information is relevant. It will also help you decide if you need to make changes or if you can deliver the session as it is written.

Some or all sessions may need to be amended to suit the specific needs of a particular IST. Changes should be made as part of preparation. These changes might need to be made in response to:

- Prior background and skill level of the training group
- Type of work participants are doing
- Amount of training time available
- Other training sessions that may have covered similar topics
- Circumstances in the community or country, including history of natural disasters
- Nature and availability of training staff and other resources

Each session includes the following components:

<b>OVERVIEW</b>	A description of the key content of the session and its importance. Include some or all of the information in the overview and objectives as you introduce the session in Step 1 of your delivery.
<b>OBJECTIVES</b>	Two or three brief statements describing what participants should be able to do after the session.
<b>TIME</b>	The times given are approximate. Trainers should read through the steps and estimate the amount of time they need for each one, given the circumstances. For example, if Counterparts are present and second languages are being used, sessions will take longer.
<b>MATERIALS</b>	Materials necessary for the sessions are listed. Handouts listed in this section are found at the end of the session.

<b>STAFF</b>	This heading is only found if resource people, such as Ministry of Health (MOH) or other country officials, Peace Corps Volunteers or staff, or other training personnel, are needed to conduct the session.
<b>PREPARATION</b>	Any special preparation needed before the session.
<b>DELIVERY</b>	<p><b>Step 1</b> provides the purposes of the session and the rationale behind participation in the training. Participants should see how the particular knowledge or skill the session teaches is something they need to know. Relate the exercise to earlier and later sessions in the training.</p> <p><b>Remaining Steps:</b> Read through the steps to understand the flow of the activity. Try to anticipate any problems or questions that might come up at each stage. Eliminate or add some steps as appropriate.</p>
<b>CLOSING:</b>	At the end of each session, use some method to reiterate the important ideas.
<b>RESOURCES</b>	Publications or other materials that might be helpful to you in preparing the session.



[illegible]

At the completion of the IST, participants should have developed a basic knowledge of community disaster preparedness and the ability to better react to potentially dangerous situations. They will have information that they need to protect themselves and to lessen the likelihood of disaster. They will have developed skills to help their communities identify their own strengths and weaknesses with regard to the ability of community members to protect themselves in the face of a natural disaster. Finally, they will be able to help guide a process which responds to the needs and resources of their particular community.



# **Part One:**

## **Disaster Preparedness and Mitigation**

### *Introduction*

Part One introduces the principal aspects of community disaster preparedness. It also examines the various types of responses that can occur.

### *Summary of Sessions*

The 16 sessions in Part One review basic information on disasters and disaster management, and build skills in the area of planning, networking, identifying resources, community mapping, and community organizing.

### *When Should These Sessions Be Conducted?*

Determination of when to provide technical DPM training will depend upon the country and the likelihood of natural hazards (the need), the makeup of the participant group, and the logistical realities in the host country. In countries in which the likelihood of a natural disaster is high, the subject is both more pressing as well as more likely to generate high interest than in countries where the likelihood of a natural disaster is low. It will be up to the country Peace Corps director and/or appropriate associate Peace Corps directors (APCDs), to determine when to conduct this In-Service Training. The best time is probably six to 12 months after the beginning of service.



## Session 1:

# Welcome, Introductions, and Expectations

### Overview

This session allows participants to get to know each other. If participants have been working together or living near each other and they already know each other fairly well, you may want to skip this session or shorten it. If, on the other hand, the participants do not know each other, as may be the case if Counterparts attend with Volunteers, this session can help to build a sense of familiarity and make them feel more comfortable with one another.

### Objectives

By the end of the session, the participants will have:

1. Established a productive and open learning environment for participants and trainers.
2. Met and/or gotten to know each other better.
3. Identified their expectations of the workshop.

### Time

1.5 hours

### Materials

Handouts

- *Pre-Test*
- *True/False Questionnaire* (optional)
- *The Disaster Cycle*

Other materials to distribute, as necessary

- Box of matches
- Blank flip chart
- Markers
- Slide projector, computer, overhead projector, as available and appropriate to speaker's needs

### Staff

The appropriate APCD or a special speaker should participate at the beginning of the session to emphasize the importance of the topic due to the country's potential hazards and vulnerabilities. The speaker should be selected based on his or her experience or familiarity with both natural hazards and vulnerabilities to disaster in-country. This speaker also can make the connection between the country's need and the Peace Corps' involvement. Such an introduction will be especially important in countries in which no major natural disaster has happened in recent memory.

## Preparation

The trainer should meet with the APCD (or speaker) in advance to review the goals and objectives of the session and to provide an overview of the training program. The trainer should inform the speaker about the general backgrounds and educational levels of the Volunteers, provide the speaker with suggestions on information that should be discussed with the Volunteers, and inform the speaker about the types of questions Volunteers may ask. The trainer should also ensure that the speaker includes visual aids that can accompany the descriptive information that will be provided about the types of hazards that occur in the host country. The trainer should find out if the speaker is considering the use of any electronic audiovisual equipment and make necessary arrangements for the equipment and its use. (If needed resources cannot be guaranteed, the trainer should inform the speaker and request that other kinds of visuals be used instead). Finally, the trainer should discuss with the presenter the amount of time needed/available for the presentation (approximately 10 to 15 minutes).

As part of the introduction to this session, the trainer and/or guest speaker may wish to engage the Volunteers in completing a true/false questionnaire concerning the general state of disasters in the world. The trainer and/or speaker can change or add statements to the questionnaire to make it more appropriate to the level of the Volunteer.

## Delivery

### Step 1. Welcome

- a. Welcome the participants to the workshop. Take a few minutes to introduce any trainers who are new to the group (including yourself, if applicable) and any other individuals involved in this part of the program. To make it as appropriate for them as possible, the trainer should share some specific, personal hazard–related experience.
- b. Give a brief overview of the workshop’s focus and note that some parts of the workshop may be a review for some of them. Let them know that, after a few initial words from the APCD or guest speaker, they will begin with a few brainstorming sessions to set the focus of the workshop.
- c. Take care of housekeeping details (i.e., reimbursements) and ask if there are any problems or concerns with lodging or other logistics.
- d. Introduce and distribute the *Pre–Test*. If the participants have not gone through DPM in their PST, it may be helpful to distribute the *True/False Questionnaire* and have Volunteers complete it. The guest speaker should reveal the following answers to the questions as part of the presentation: question 1 = false; questions 2 to 6 = true. More complete answers to questions 1 to 3 can be found in Heiberg (from the FEMA website, 1999); more complete answers to questions 4 to 6 can be found in United Nations (from the USAID/OFDA website, 1997). Both complete references can be found in Appendix 4: *Resources and Reference Materials*. Note that the *Pre–Test* is not really a test but is designed to help the participants identify what they know and do not know and recognize what they have learned. Let them know that the *Pre–Test* includes a number on the upper right hand corner only and no names need be added. When collected, the *Pre–Tests* will be used for training evaluation and improvement purposes.

and then made available to the participants. Tell the participants to mark a “V” for Volunteer or “C” for Counterpart next to the number on the page and remember their numbers. Give the participants a few minutes to fill out the *Pre–Tests*.

### **Step 2. Guest Presentation**

Ask the APCD or guest speaker to make his or her presentation.

### **Step 3. Introductions**

- a. Invite the group to come up with ideas about what they would like to know about someone when they meet them for the first time. Write the responses on the flip chart, e.g., name, age, where they come from, what they do, marital status, do they have children and how many, what they like to do in their free time.
- b. Ask each person to pick a partner with whom to have a “getting to know you” chat. Ask them to pick someone they do not know, and let them know that the trainer(s) should be considered a part of the exercise. Tell participants to spend the next 10 minutes talking with each other, exchanging information based on the items written on the flip chart.
- c. Ask the group to form a circle, with partners standing next to each other. Pass around a box of wooden matches, and ask each person to take a match. They will have to introduce their partner in the time it takes for the match to burn, selecting what they think is especially important or interesting about their partner. Ask if there are any questions.
- d. The trainer should go first and introduce his or her partner. The trainer should then ask his or her partner to light their match and introduce the trainer. The participants continue in this way around the circle until each participant has introduced their partner.
- e. After everyone has been introduced, thank them for their involvement in the activity, commenting that it was intended to help them get to know each other so that everyone feels comfortable expressing themselves.

### **Step 4. Ground Rules or Group Norms**

- a. Ask the participants to break into groups of five to brainstorm what they think are important ground rules for the workshop (e.g., attentiveness while others are speaking); provide a flip chart for each group. Tell them they have 10 minutes to discuss, pick a presenter, and re–form into the larger group.
- b. After 10 minutes, call the entire group back together. Have the presenters describe the guidelines on their group’s flip chart.
- c. From the groups’ lists, have the participants select four key guidelines. Ask if they all agree with these four guidelines. Revise if necessary.
- d. Make the transition to the next activity by telling the participants that the group norms will be applied to all workshop activities and are important to the next part of this session: identifying the expectations of the training.

**Step 5. Expectations**

- a. Tell the participants that their expectations are important in helping you gear the training to their needs.
- b. Discuss what knowledge and skills they want to be able to apply to their communities after the workshop.
- c. Compare these to the formal workshop objectives and discuss their relationship.  
The overall objectives of the IST disaster management module are to:
  1. Raise the consciousness of workshop participants about the importance of disaster preparation and mitigation.
  2. Reduce the vulnerability of participant communities and lessen the impact of natural disasters through training community leaders and Peace Corps Volunteers in community disaster preparedness.

*Handout*  
*Pre-Test*

**Participant # \_\_\_\_\_**

1. How do you think Peace Corps Volunteers can help communities better prepare for and minimize the impact of (a hurricane, earthquake, drought, etc. Choice/s should be country-dependent)?
  
2. Define the following terms:
  - a. Hazard –
  - b. Disaster –
  - c. Emergency –
  - d. Vulnerability –
  
3. Typically, there are actions that one can take BEFORE, DURING, and AFTER a natural disaster. Please identify some activities in each category:  
  
Before:     a)  
              b)  
  
During:     a)  
              b)  
  
After:       a)  
              b)
  
4. What is a community risk analysis?
  
5. Identify some activities that might be included in a community risk analysis in \_\_\_\_\_ (name of country).

*Handout*

*True/False Questionnaire on the  
General State of Disasters in the World*

1. The entire world is hit just about equally in terms of the damage caused by natural disasters. T/F
  
2. Fires, droughts, and floods from the 1998 El Niño claimed more than 20,000 lives. T/F
  
3. Forty to 50 of the fastest growing cities worldwide are located in earthquake zones. T/F
  
4. Natural disasters kill more than 1 million people around the world each decade. T/F
  
5. Economic damages from natural disasters cost more than \$100 billion in the 1990s. T/F
  
6. In many places in the world, long-term suffering from disease and hunger has increased as a result of individual disasters. T/F

## Handout

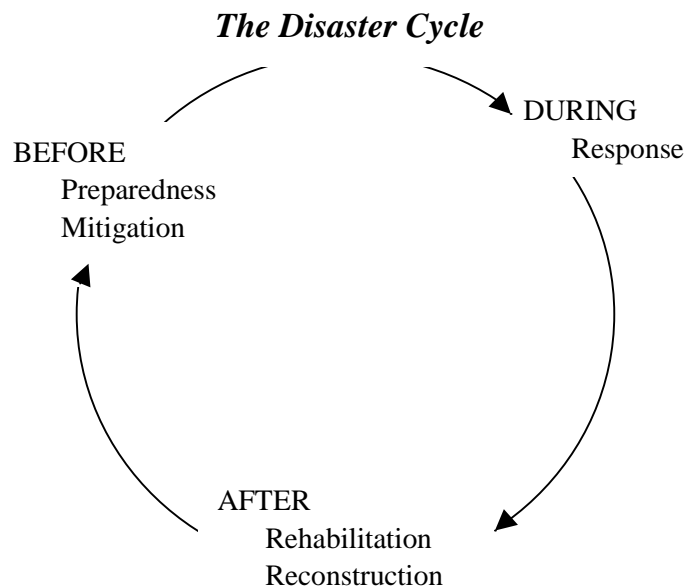
# The Disaster Cycle

Disaster experts tell us that the response to disasters can be conceptualized as a cycle with three phases, BEFORE, DURING and AFTER.

The BEFORE phase is that period of time before a disaster hits, including the time when a warning and/or alert is announced, during which preparation and mitigation activities may take place, with the objective of decreasing people's vulnerability and reducing the negative impacts of disasters. Mitigation activities include actions that, in the long term, will lessen the magnitude of effects of hazards. This might include improved housing construction or reforestation of watersheds. Preparation includes such activities as stockpiling food and water or carrying out a simulation at the community level.

The DURING phase is that period of time during which lives and livelihoods are at risk and lasts until the danger is over.

The AFTER phase is the rehabilitation and reconstruction phase, after the immediate danger is past, when people and communities put their lives, livelihoods, and homes back together.





## Session 2:

# Learning About and Sharing Reactions During Disasters

### Overview

In this session, participants learn about typical reactions in disaster situations and are invited to share any experiences that they have with disasters. The information draws on written materials (provided in the *Disaster Preparedness and Mitigation PST Module*) and repeated in Appendix 1: *Common Psychosocial Responses to Disasters*. After reviewing the types of reactions that are likely during a disaster, participants share personal experiences.

### Objectives

By the end of the session, the participants will have:

1. An understanding of some of the likely reactions during a disaster.
2. An idea of the coping mechanisms that can help people in the event of a disaster.
3. A validation of the knowledge and experience of participants who have been directly effected by disasters.
4. An understanding of the Disaster Cycle.

### Time

1 hour

### Materials

Participant Workbook

Pens, pencils

Flip chart

Markers

Handout

- *Common Psychosocial Responses to Disaster*

Flip chart:

- Small Group Tasks

### Staff

It would be helpful to have a staff person or other authority present who has been in a hazardous situation. That person may be able to provide comfort to those participating in the visual imaging part of the session, as well as provide perspective on reactions to disasters. If such a person participates in this session, they should be introduced at the beginning of the session. A second person—a co-facilitator or assistant—will be needed during this session to assist with recording information.

## Preparation

The trainer should be prepared to ensure a sensitive approach to reactions of participants who have experienced disasters, particularly recent ones, either in the U.S. or elsewhere. If participants have experienced a disaster, they still may be traumatized. Before this session, trainers should know from the *Pre–Tests* which participants have experienced a disaster. In Step 3, the trainer should emphasize that people who have been through a disaster may not want to participate in the visual imaging exercise. The trainer should also look for any signs of stress (e.g., crying or facial expressions indicating extreme concern) in those who have experienced a disaster and decide to participate in the exercise. If that is noted, the trainer should quietly approach the person and ask them if they feel they would like to continue with the exercise. It is also important to check with participants at the close of the session to see that they are all right.

Additionally, the trainer should review the list from Appendix 1: *Common Psychosocial Responses to Disasters*, identify whether all or part of the information is needed for this exercise, and present a shorter or tailored version of the information, as needed.

## Delivery

### Step 1. Overview

Review the session objectives with participants. Emphasize the opportunity that participants will have to share their experiences, and that this sharing will help everyone learn.

### Step 2. Common Psychosocial Response

Distribute and review *Common Psychosocial Responses to Disaster*. Give the participants time to read it.

### Step 3. Guided Visualization

- a. Tell the participants that you are going to ask them to close their eyes in a moment and, for the next five minutes, imagine that they are experiencing a country–appropriate disaster. Tell the participants you realize that some of them might have experienced disasters, and tell them that if they find this exercise painful or stressful, they do not have to participate. Tell them they can get a drink of water or quietly sit in their places.
- b. Ask the participants to close their eyes and recall a natural disaster they experienced. Ask participants leading questions about their experiences: What is happening around you? (PAUSE) What is the scenery? (PAUSE) Who is there? (PAUSE) What are people doing? (PAUSE) What are you feeling? (PAUSE) What do you do? (PAUSE) How is the situation resolved? (PAUSE)
- c. Ask participants to open their eyes when they are ready. Suggest they take a deep breath and relax. Tell them that they will have an opportunity to share whatever they wish. They do not need to say anything that makes them uncomfortable. Record their reactions on the flip chart. Ask them then to identify (in order):
  - The scene and what was happening around them (e.g., panic, buildings collapsing)
  - Who was there
  - What people were doing
  - What they felt (e.g., panic, fear, confusion)

- What they did (e.g., ran, screamed)
- How the situation was resolved.

#### **Step 4. Common Reactions**

- a. A common reaction in a dangerous and frightening situation is to save oneself, which often causes a flight response, although this might not always be the safest reaction. Knowing how to be safe can help reduce both the fright and putting one self in more danger.
- b. Help the participants identify what the safest reactions might have been to the particular disasters they visualized. Tell them that later sessions will focus specifically on how to reduce the danger to themselves and others. Ask how they felt about the exercise and whether it helped them to identify the kinds of psychosocial issues they might have to deal with, in themselves and those around them. Afterwards, give the participants time to record their thoughts on pages 3 and 4 of their Workbooks.

#### **Step 5. Dramatization of “Before, During, After”**

- a. Distribute the *Disaster Cycle* handout and explain that they will have an opportunity to consider actions before, during, and after natural disasters. Have them agree to work on a particular type of disaster, such as a hurricane.
- b. Reveal the flip chart with the task of each group.
  1. Group 1 is to prepare a three to five minute dramatization depicting experiences group members had in common immediately before a disaster arrived in their communities.
  2. Group 2 is to prepare a three to five minute dramatization depicting the effects and damages experienced during the emergency phase of the same disaster.
  3. Group 3 is to prepare a three to five minute dramatization depicting actions taken after the disaster in the different communities.
- c. Divide participants into three groups. Ask them to take 15 minutes to prepare.
- d. Ask each group to present its dramatization. After each one, help group members identify the most important points brought out by the presentation. List relevant points on a flip chart that address BEFORE, DURING THE ALERT/EMERGENCY, and AFTER activities. In addition, make a list on a flip chart, entitled DAMAGES AND LOSSES, based on the presentations.

#### **Step 6. Summary**

End the session by asking the participants for their opinion of using dramatizations to share their experiences. If answers are not forthcoming or if participants do not address how their thoughts, feelings, or attitudes may have been affected by the exercise, probe these issues by asking if anyone’s attitudes changed about what is ‘right’ or ‘wrong’ or ‘good’ or ‘bad’ to feel or do during an emergency. Ask them what they learned from these presentations and whether they have a better understanding about how to prepare for and behave safely during a natural disaster.

## Resources

The following resources may be helpful for this session.

Anderson, M.B., and Woodrow, P.J. *Rising From the Ashes: Development Strategies in Times of Disaster*. Boulder, CO: Lynne Rienner Publishers, Inc., 1998. (ICE number CD056)

National Institutes of Health. "Disaster Work and Mental Health: Prevention and Control of Stress Among Workers." Bethesda, MD: NIH, 1983.



## Session 3:

### *Disasters and their Effects (a)*

#### Overview

This session reviews or introduces information that was provided in the *Disaster Preparedness and Mitigation PST Module* Part One, Session 2: **An Overview of Disaster Preparation and Mitigation** and Session 3: **Volunteer Safety and Security**. If they did not have the training in PST, it will introduce the topics helping the participants define a disaster and identify the actions they can take to reduce the effects of disasters. The previous sessions may be useful in preparing for or supplementing the information presented here by providing a base of information from which to draw.

#### Objectives

By the end of the session, participants will be able to:

1. Define the term “disaster.”
2. Identify natural and human-induced events that the communities where they live face.
3. Identify actions to take to reduce the damaging effects of possible future disasters.

#### Time

30 minutes

#### Materials

Handout

- *Definitions*
- *Word Probes and Definitions*
- Emergency Action Plan (EAP)
- Workbooks

Flip charts from previous session

- Before the Emergency
- During the Emergency
- After the Emergency
- Damages and Losses

Prepared flip charts

- Events that Can Cause Disasters  
possible examples include:
  - Floods
  - Wild Fires or Forest Fires
  - Mudslides or Landslides
  - Earthquakes
  - Droughts
  - Pesticide Spills

- “What can we do today to reduce the future effects of...” and one country–appropriate disaster listed on it (e.g., if in Honduras, an appropriate flip chart heading would be “Hurricanes”).

Pens and pencils

Blank flip chart, markers

## Preparation

The trainer should review *Disaster Preparedness and Mitigation PST Module* Part One, Session 2: **An Overview of Disaster Preparation and Mitigation**, and Session 3: **Volunteer Safety and Security** for any pertinent information.

## Delivery

### Step 1. Definitions

Ask the participants to define a disaster; write down their responses. A disaster includes *human* damage and losses caused by the specific conditions of the hazard, such as winds, rain, or floods. Also note that an important characteristic of a disaster is that it exceeds the ability of the affected population to cope using their own resources. Help participants understand the difference between a hazard, a disaster, a vulnerability, and an emergency by distributing and reviewing the handout *Word Probes and Definitions*, using the Trainers Guide to Words and Definitions for various probes. Ask if there are any questions.

### ***Word Probes and Definitions***

#### **HAZARD**

##### PROBES

- What hazards are we most likely to encounter in our host country?
- Did you face any of these hazards where you lived in the United States?
- Do all hazards cause human disasters? Why or why not?
- Can natural hazards or disasters be prevented? (*Not with our current knowledge—perhaps in the future*)  
(*The key is that the event takes place in an area of human settlement.*)

DEFINITION: A natural phenomenon or event that may cause physical damage or economic loss or may threaten human life and well-being if it occurs in an area of human settlement. A hazard can cause catastrophic events in places where there is no human settlement, such as when a forest fire destroys a national park.

#### **DISASTER**

##### PROBES

- How should a disaster be defined, that is, how is it different from a hazard? (*Human consequences*)
- In the face of a lack of preventive methods, what can be done? (*Ensure long-term planning.*)

*Continued*

- What can be gained with long-term planning? (*Reduction of loss of life, livelihood, and property*)

DEFINITION: A serious disruption causing loss of life and property that exceeds the ability of the affected society to cope using its own resources. This is a catastrophic situation where normal life is severely affected.

## **VULNERABILITY**

### **PROBES**

- What physical conditions place people at greater/lesser risk? (*roads, buildings*)
- What medical conditions? (*disability, mobility, blindness*)
- What social or cultural conditions? (*elderly, monolingual households, women versus men, children*)
- What economic conditions? (*insurance, etc.*)

DEFINITION: Susceptibility to the negative consequences resulting from a natural disaster. The many types of vulnerability include physical or material vulnerability (housing, infrastructure), social/organizational (social inequality, institutional capacity), and motivational/attitudinal (“can-do” attitude versus fatalism).

## **RISK**

DEFINITION: In disaster management, risk is defined as hazard + vulnerability = risk.

## **EMERGENCY**

### **PROBES**

- If you live in [a relevant geographic area], what is a hazard you face every year? (*e.g., hurricanes*)
- When is the emergency phase of a (hazard)? (*When it is approaching and touches land*)
- When is the emergency phase of a (hazard)? (*When it is approaching and touches land*)
- When is a hurricane that touches land in [a relevant geographic area] a disaster? (*When lives and property are lost, when the power goes out, when water and phone lines are destroyed, etc.*)
- If that hurricane had gone back to sea before touching land and just wound itself down without causing any damage, would it have been a disaster? (*No*)
- Even though this time the hurricane did not hit land, was there still an emergency? (*An emergency situation existed during the period of time that it was predicted tht the hurricane would touch land.*)
- What kinds of activities were going on in [a relative geographic area] at that time? (*Evacuating people, securing buildings, stockpiling food, etc.*)

DEFINITION: The phase of the disaster during which lives and/or livelihoods are at risk and if action is not taken, lives will be lost.

### Step 2. Local Hazards

- a. Ask the participants to name some of the natural or artificial (human–induced) events that may cause disasters in the country’s communities. Write the responses on the flip chart headed Events That Can Cause Disasters (hurricanes, flooding, forest fires, earthquakes, drought, slash and burn agriculture, landslides).
- b. Ask them to open their Workbooks to page 5 and write down what they think is important to know about disasters.

### Step 3. Activities During Emergencies

- a. Review the kinds of activities that take place during emergencies by posting the ALERT/DURING THE EMERGENCY flip chart created in the last session:
  - Looked for shelter
  - Evacuated neighbors who were in danger
  - Took care of the sick and injured
  - Tried to fix things like water, power and sewage systems, roads, and bridges
- b. Ask participants what they think is the likelihood of communities receiving outside help during the initial hours and days following a disaster. Discuss why help is not likely—takes time to assess what needs to be done; takes time to get assistance, particularly in isolated areas; assistance efforts often follow a prioritized action plan (e.g., the most severely damaged coastal areas may be a first priority and assistance to other areas may be delayed.)
- c. Stress that there are many resources in communities and that people naturally defend themselves against attack, whether by nature or human, and are often highly successful. But they can be more so.

### Step 4. Mitigation Activities

- a. As a final activity, divide the large group up into five groups, providing each group with a prepared flip chart that has the following heading and a list of hazards:

What can we do today to reduce the future effects of

- Floods?
- Wild fires?
- Mudslides?
- Earthquakes?
- Droughts?

Assign each group a different hazard and ask each group to discuss the actions it could take now with their families and communities to reduce the future effects of the particular hazard, should it occur. Tell the participants that an important reference for them is the Emergency Action Plan, and distribute it if they have not already received one during other parts of their training.

- b. Give them 15 minutes to work.
- c. Tell them they will have an opportunity to share their work in the next session.



### Step 5. Summary

Ask the participants to review the information on the flip charts around the room and ask for a volunteer to present a summary of the session in three sentences or less. See if the other participants agree or whether they think that one or more ideas need to be added to the summary.



## *Handout*

# *Definitions*

### ***Definitions***

#### **HAZARD**

A natural phenomenon or event that may cause physical damage or economic loss or may threaten human life and well-being if it occurs in an area of human settlement. A hazard can cause catastrophic events in places where there is no human settlement, such as when a forest fire destroys a national park.

#### **DISASTER**

A serious disruption causing loss of life and property that exceeds the ability of the affected society to cope using its own resources. This is a catastrophic situation where normal life is severely affected.

#### **VULNERABILITY**

Susceptibility to the negative consequences resulting from a natural disaster. The many types of vulnerability include physical or material vulnerability (housing, infrastructure), social/organizational (social inequality, institutional capacity), and motivational/attitudinal (“can-do” attitude versus fatalism).

#### **RISK**

In disaster management, risk is defined as  $\text{hazard} + \text{vulnerability} = \text{risk}$ .

#### **EMERGENCY**

The phase of the disaster during which lives and/or livelihoods are at risk and if action is not taken, lives will be lost.

## *Session 4:*

### *Disasters and their Effects (b)*

#### **Overview**

This session helps the participants recognize the importance of community involvement and planning and what can be done with the involvement of the community to reduce the negative impact of hazards.

#### **Objectives**

By the end of the session, participants will be able to:

1. Identify actions to reduce the negative impact of hazards.
2. Emphasize the importance of the community as the first and often only resource during emergencies.
3. Identify available community resources.
4. Demonstrate the importance of pre–planning in emergency situations.

#### **Time**

30 minutes

#### **Materials**

Participant Workbook

Prepared flip chart

- Activities to Reduce Damages and Losses

List of participants

Large, lightweight ball

A pillow or large drawing labeled FOX

A pillow or large drawing labeled HEN

A pillow or large drawing labeled CORN

Pens or pencils

Flip chart and markers

#### **Delivery**

##### **Step 1. Reducing Vulnerability**

- a. Tell the participants that the next activities will focus on ways to reduce the vulnerability of the communities in which they live. Tell them that you would like to provide an innovative way, first, for them to report on the work they did before breaking for lunch.

- b. Ask each group to stand together. Let them know that each group is now a team. Tell them that, as the ball is thrown to each team, that a team member from that team is to provide one answer to the following question:

- What can we do today to reduce damages and losses in future disasters?

Do a practice run. As the game is played, a volunteer aide in each group should list the responses on a blank flip chart. After the game is played, ask the full group to come back together and identify—while you write on the prepared flip chart, the activities that:

- Can be carried out in the short– and long–terms
- Involve individuals, families, and communities
- Can be carried out by the community members, without outside assistance

### ***Activities To Reduce Damages and Losses***

Activities that can be carried out in the short term.

Activities that can be carried out in the long term.

Activities that involve individuals.

Activities that involve families.

Activities that involve communities.

Activities that can be carried out by the community without outside assistance.

- c. Conclude the exercise by saying that there are many activities that communities can undertake without outside help to reduce hazard vulnerability. Post the flip chart lists completed by each group and recommend that the participants record the lists in their Workbooks or notebooks.

### **Step 3. Moving Needed Resources**

Tell the participants that the next exercise will help them to consider a key issue for their work in disaster management. Ask them to form two lines, with each individual facing someone else. Give them the following instructions:

- They are at a rope bridge.
- At one end of the bridge is a village that was isolated as a result of landslides on all the roads leading in and out of the village.
- Several days have passed since the landslides and villagers are running low on food.
- At the other end of the bridge is another village that wants to help, but the only connection between the two towns is the rope bridge, which is very weak.
- The community that wants to help has collected food for the neighboring community, but they also must work within the constraints of mitigating factors represented by a chicken and a fox (show the pillows or drawings labeled CORN, FOX, and HEN).

- The goal of this activity is to take the food to the needy community. There is, however, one problem. The bridge is so weak that it can only support the weight of one person with one sack of food at a time.

Ask the participants to work with their partner across from them for the next few minutes to figure out how to get the food to the needy village. Ask for sets of volunteers who think that they have the solution to the problem. Tell them that they will have a chance to take the food across the bridge. However, do *not* let them know that the order in which the sacks are taken to the neighboring village is the key. (See the solution below.)

***Solution: Getting Food to the Village***

1. First, take the hen across the bridge. In this way, the fox is left with the corn, and foxes do not eat corn.
2. Second, walk back to the other side and pick up the corn, take it across the bridge, but as soon as you get to the other side, put down the corn and pick up the hen and carry it back across. In this way, the corn is not left alone with the hen, which would surely eat the corn, if left to her own devices.
3. Walk back carrying the hen with you, leave the hen, pick up the fox and take it across, once again leaving the fox and the corn together.
4. Finally, walk back, pick up the hen and take it across the bridge. The task is now accomplished and the participant is there to make sure that the fox does not eat the hen and the hen does not eat the corn.

Participants will likely try different approaches. Each time they make a mistake, send the food back to the other side, saying “Sorry, it won’t work that way.” If the participants are having a hard time, begin giving clues, such as: “But if you take the corn first, and leave the hen and the fox alone on the other side, what might the fox do to the hen?” Eventually someone will figure out the solution. Afterwards, emphasize the point of the exercise. Planning and preparation are key ingredients for any program.

## Resources

The following specific resources may be helpful to this session.

FEMA website: [www.fema.gov](http://www.fema.gov)

CDERA website: [www.cderra.org](http://www.cderra.org)

## Session 5:

# Our Communities

### Overview

This session reviews information provided in the *Disaster Preparedness and Mitigation PST Module*. It helps participants understand the importance of community risk analysis mapping and introduces or builds on the skills they need to develop an appropriate map.

### Objectives

By the end of the session, the participants will be able to:

1. Identify important reasons for having a community risk analysis map, and elements that should be included in the map.
2. Begin drawing a community map for each of the communities represented at the workshop, one that graphically represents the community, its infrastructure, its vulnerabilities and its resources, as related to the hazards it faces

### Time

45 minutes

### Materials

Participant Workbook

Flip chart:

- “What is in Our Communities?” listing a few examples from the box below

Streets	Schools	Telephone offices	Crops
Paths	Health clinics	Post offices	Cemeteries
Routes	Wells	Electric/water plants	Bakeries
Houses	Marketplaces	Rivers and or lakes	Bus depots
Churches	Hospitals	Playing fields	Offices/other building

- Analysis and Mapping Decision Tree
- Sample community maps gathered from Peace Corps or in-country before the session begins

Pencils, erasers, and rulers

Bag (or hat) with the names of all the participants on slips of paper

Flip chart and markers

## Preparation

This session includes some information presented in Part Two, Session 2: **Community Risk Analysis and Mapping** of the *Disaster Preparedness and Mitigation PST Module*. The trainer should review that material and adapt or use other information as appropriate.

As appropriate, community risk and resource mapping could be integrated with the local watershed training if participants will also be focusing on that subject. In that case, the links and relationships between the condition of the watershed and the vulnerabilities of the community center or roads and bridges leading in and out of town should be highlighted.

During pre–training research, investigate whether the community already has a map (often the local public health clinic has one). Additionally, many countries already have an established protocol regarding risk mapping, as well as an established risk map and a disaster management plan. In many countries, the civil defense or comparable local agencies are responsible (e.g., weather service). It will be important to find out if such agencies or situations exist in–country. If so, this is a good place for this part of the training to start, and a good place for the participants to start their inquiries. Study these and prepare to make suggestions and offer feedback and guidance to participants.

Additionally, the trainer should be prepared to notice and address different participation levels of individual participants. If Counterparts are included in this training, they may be particularly hesitant or extremely demanding of themselves in approaching the mapping exercise. Be sure to circulate during the session and provide suggestions and assistance. Explain that the point of the exercise is to draft a map that participants can take back to their communities to complete between the second and third day of the workshop.

The community mapping exercise here has different objectives than the Community Mapping training that is presented in *PACA: Participatory Analysis for Community Action* (ICE number M0053). If this and the associated mapping session, Part One, Session 8: **Mapping**, are conducted using a participatory process with Counterparts, and/or perhaps later with other community members, it is strongly suggested that facilitators read the *PACA* manual and include activities that would permit comparison of different perceptions in the audiences’ vulnerabilities (including gender differentiation) and resources.

Also, before participants go out to communities for the purpose of mapping, it is important to notify the communities that the participants will be visiting and interviewing community members as part of this exercise. Trainers need to stress the importance of providing an introduction to their work, and the reason for their inquiries. (Depending on the country, culture, and community, it might be worthwhile providing some formal introduction that the participants can use.) Being sensitive to one’s cultural surroundings is an important lesson in and of itself, but failing to identify the reason for this exercise can result in a feeling of offensiveness and defensiveness on the part of community officials and members. This can ultimately result in an unwillingness of community members of any group to participate.

## Delivery

### Step 1. Importance of Risk Assessment Maps

- a. Tell the participants that you would like to focus now on maps of their communities that may be available and which are kept to identify landmarks important to a disaster mitigation effort. Identify community mapping as a “community entrance activity” that will help analyze and identify risks and resources in each community, and help participants plan responses in the face of emergencies.
- b. Ask the following questions. Probe until adequate answers have been provided. If participants cannot answer the second through fourth questions, stress the importance of learning the answers.
  - What is a community risk analysis? (*An analysis that identifies the hazards and resources of a community.*)
  - Why are community risk analysis maps important tools for disaster preparation? (*To know where the dangers lie, to be able to find and communicate with everyone in case of emergencies, to know where resources and risks are, to increase public consciousness about past natural disasters and disaster preparedness.*)
  - Where are the community maps held in their communities? (*Local government offices, village or town or city planning boards.*)
  - Are they in a place where everyone in the community can see them and refer to them? (*This may be the case, depending upon the country, government systems, and locale.*)
  - Are they accessible to everyone (in terms of location, language, or literacy)?
  - Who drew the map? (*It is important to identify the individual(s) who drew the maps in case there are any questions about it.*)
- c. Tell the participants that the afternoon’s activities will focus on creating maps of their communities. Also note that when they finish, they will have a map that not only shows what structures are in their community, but also shows their community’s vulnerabilities to natural disasters and resources that might be useful during or after a disaster.

### Step 2. Key Elements for Maps

- a. Provide participants with the handout *Hazard Analysis Steps*. Put the prepared flip chart of the flow chart in front of the room. Have the participants read the steps of the process out loud, with each participant speaking in turn for each step. Note that these activities are a part of the BEFORE phase of the Disaster Cycle that can be done with other community members when Volunteers get to their sites.
- b. Show them the prepared flip chart *What is in our Communities?* and ask for more suggestions until the list is completed by drawing the names of participants out of a hat and asking each one in turn, to add one item to the list. Continue drawing names from the hat until each person has at least one turn and the list is fairly complete.



- c. Ask participants to make a complete list of what is in their community on page 11 of their Workbooks. If there are more than one Volunteer and Counterpart per community, ask them to form small groups. These “community groups” will be referred to later in the training.
- d. After they identify what is in their community, ask them to take a piece of flip chart paper and a pencil (so that changes can be made) and start to draw their community maps.

### **Step 3. Closure**

Tell participants that they have now completed the first steps of community mapping. Ask them what types of issues they need to keep in mind when they are developing their maps and why (e.g., the vulnerabilities of the community and what resources there are to address them, what roles various community points and places can play during a hazard). Thank the participants and remind them that these subjects will be taken up in more detail in the next sessions ahead.



## *Handout*

# *Field Work: Practice Community Hazard Analysis and Mapping Steps*

1. Introduce yourself to community elders or leaders. Describe what you are learning about disaster management and ask their permission to talk with community members so that you can draw a risk map. Get their suggestions of who to meet with.
2. The Volunteer meets with representatives from the community and with the institutions involved with disaster preparedness and responses to assess human resources. Other community groups that might be involved—although not represented here—include women's groups and faith-based groups.
3. The Volunteer determines whether a community map (community map  $\neq$  bounded village unit; hunting areas, fields, and kinship networks may be far away) with hazards identified or a hazard inventory exists. If a hazard map or hazard inventory exists, then the Volunteer acquires it; if not, the Volunteer proceeds with Step 5.
4. Volunteer acquires other appropriate maps of the area.
5. With the help of community members, if possible, the Volunteer sketches a map showing the vulnerabilities and resources.

## Session 6:

# Hazards and Vulnerabilities in Our Communities

### Overview

This session helps participants to explore the relationship between disasters, poverty, and vulnerability. Initially, some participants may have difficulty understanding that some people are more affected by natural disasters than others and that a community can prevent some potential losses through preparation.

### Objectives

By the end of the session, the groups will be able to:

1. Better express the relationship between natural disasters, development, poverty, and vulnerability.
2. Identify the primary disaster risks and hazards faced by their communities.
3. Add vulnerabilities and hazards to community maps.

### Time

At least 1 hour

### Materials

Workbooks

Flip charts from previous sessions, Part One, Sessions 2 and 3:

- Damages and Losses
- Events That Can Cause Disasters

Flip chart

- What Are Risks and Hazards? (drawing)
- Rio Grande photograph
- The Volcano drawing

Sample community maps

Red and black markers, pencils, erasers, rulers, etc.

Handouts

- *Case Studies*

### Delivery

#### Step 1. Poverty and Natural Disaster Losses

- a. Introduce this session by telling participants that they will continue to work on their maps during this session, but first you would like to talk about why some sectors of the community may suffer more damages and losses than others as a result of disasters and emergencies.

- b. Briefly review the DAMAGES AND LOSSES flip chart list that was discussed earlier. If any members of the group have had experience with disasters, ask them to respond to the following questions and provide comments on the answers:
- Why do you think that more poor people than middle class or rich people lost their houses during the disaster? *(They lived close to the rivers, on hillsides, in poor, weak houses.)*
  - Why would many of the poor still be living in shelters? *(They do not have enough money to get new housing, their families do not have room for them, the government is not fulfilling its promises.)*
  - Would the poor or the more wealthy be better able to recuperate and get on with life after a disaster? Why? *(The answer primarily lies in resources; thus, we say that, generally speaking, the poorest people have more difficulties than those who have more resources.)*
- c. Then, provide participants with the case studies. Ask them to spend a few minutes reviewing the information in them and, as they are reading, to reflect on the types of situations in which the poor likely found themselves within the situations described. Focus on four questions:
1. What situations did the poor who were living in affected areas likely face?
  2. Where might they have gone after the disaster?
  3. What conditions were they living in one year later?
  4. What role might a Volunteer be able to play given a similar scenario?

## Step 2. Summary

- a. Ask the participants what a vulnerable population/condition means. *(The people most likely to suffer loss in terms of person, property, or goods; those people in situations where, after a disaster, it is more difficult to move forward.)* Ask if this is clear.
- b. Ask for examples from their communities for whom this might be the case. Ask for any questions or comments.
- c. Post the list Events That Can Cause Disasters, and note that the poor suffer most during these occasions throughout the world.
- d. Post the photograph of the Rio Grande. Ask the participants what two hazards people face *(rain, flooding of banks)*: Which of the houses are most vulnerable to each hazard?
- e. Post the drawing The Volcano and identify it as a “hazard.” Ask the participants what the risk is. *(The volcano might erupt.)* Ask which of the communities is most vulnerable in the face of the volcano erupting? *(The community at the foot of the volcano.)* Ask what could happen to each of the communities to provide a fuller understanding of the different vulnerabilities in the communities.

### Step 3. Application to Own Community

- a. Ask participants to look at pages 11 to 16 in their Workbooks. Review the contents and activities.
- b. Explain that they will work by community groups to complete these pages and that the group will reconvene later to identify the strengths and resources of the communities. Ask for questions and then ask them to form their groups and carry out the activities in their Workbooks.

### Resources

The following specific resources would be helpful as background reading for this session.

Materials on individual disasters in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*.



*Handout*  
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## ***Case Study Examples of Peace Corps Volunteers' Involvement in Disaster Management***

The following are examples of case studies to provide background for how Peace Corps Volunteers have been involved in the past before, during, and after natural disasters. Information for the training should reflect the host country situation and involvement. Trainers should attempt to provide the relevant information from that country or similar environments. These situations were developed following Hurricanes Mitch (1998) and George (1998).

### ***First Year Hurricane Anniversary Report***

#### **Honduras**

Honduras suffered the main force of Hurricane Mitch in 1998 with widespread flooding, massive erosion, and landslides throughout the eastern and southern regions of the country. Homes, farms, businesses, and much of the country's infrastructure were destroyed. Volunteers are working to rebuild basic household and community infrastructure to allow families to meet immediate needs.

Since Hurricane Mitch, Peace Corps/Honduras has increased its Volunteer presence by over 40 percent. The Peace Corps is refocusing its programs in Honduras by integrating awareness and mitigation into all ongoing projects with a concentrated effort to train leaders, women, youth, and staff of organizations and municipalities to plan and prepare for future disasters. The Peace Corps is thus able to extend its reach, through its Peace Corps and Crisis Corps Volunteers, to large numbers of people and communities hardest hit by the hurricane. Projects in traditional Peace Corps sectors such as water and sanitation are now focusing on rebuilding water-system and latrine infrastructure destroyed by the hurricanes. Those in agriculture are helping the impoverished rural population recover from devastating crop loss in basic grains and providing income generation opportunities through the production of small livestock. Projects in new areas to Peace Corps, such as municipal management aim to train municipal staff to be the locus for rebuilding community infrastructure and services.

#### **Peace Corps Volunteer Activities**

**Morolica, Choluteca:** The entire community of Morolica where the Volunteer was assigned was swept away by massive river flooding caused by Hurricane Mitch, leaving behind only the remains of the local church. More than 400 homes were lost, including the Volunteer's. During the hurricane, the Volunteer worked with community leaders to evacuate townspeople to safety. In the days immediately following the hurricane, he and a schoolteacher walked almost 25 miles (40 kilometers) on wet, muddy roads to coordinate donations of emergency food and medical supplies from a neighboring community and carried the supplies to Morolica for distribution. He helped organize two temporary health centers which supplied emergency medical aid to hurricane victims and formed the community into several relief committees, such as food and



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clothing distribution, road rehabilitation, and census taking. He then established groups for latrine construction and helped with medical brigades, acting as a translator and liaison between international aid agencies and local people. Following a temporary evacuation to Panama, the Volunteer returned to his site to continue the work with community leaders in the reconstruction efforts of “Nueva Morolica.” Because of his dedicated and tireless efforts before, during, and after Hurricane Mitch, he built an unbreakable bond between himself and the people of his community.

**San Antonio de Flores, Choluteca:** San Antonio de Flores, Choluteca, is a small community on the Pan American Highway south of Tegucigalpa. Torrential rains from Hurricane Mitch caused the Rio Grande, which flows by this community, to flood its banks, wreaking havoc on the community. Many people lost their homes and personal belongings. The Volunteer was a health extensionist whose primary assignment had been working to improve health practices in the community and develop youth leaders through life planning education. In the aftermath of Mitch, she worked with the town’s mayor to organize displaced persons into committees to determine needs and assisted them to secure building materials for temporary shelters through a local cooperative housing foundation with USAID funding. She supervised the local committees in the construction of 70 temporary shelters for 350 people. The townspeople in San Antonio de Flores are slowly piecing their lives back together. One year after Hurricane Mitch, the temporary shelters made of wood and plastic canvas still stand and continue to be a home for those families who lost everything during the storm. A fortunate few have established a small store within their one-room shelter where they sell candies, bags of banana chips, and cans of soda and have one or two small cots that accommodate a family of four to five people. Life on the Rio Grande along the Pan American Highway remains a struggle, but now with a roof over their heads these families are reconstructing other parts of their lives.

### **Crisis Corps Activities:**

In the last year, the Crisis Corps has placed 44 Volunteers in Honduras. They have worked with communities to rehabilitate water systems, build new housing, train unskilled workers in basic construction techniques, assist with immunization campaigns, provide trauma counseling, and work with farmers on mitigation techniques.

The 12 Crisis Corps Volunteers assigned to water and sanitation projects estimate that they have helped with the damage assessment, repair, or construction of well over 100 water systems. Five of the Volunteers are civil engineers; several took leaves of absence from their firms to respond to the devastation in Honduras. The group included a geologist who was a Peace Corps Volunteer in the Dominican Republic in the early 1970s. Now a university professor, he volunteered to work during his summer break with SANAA, the Honduran Ministry responsible for water projects. In addition to evaluating water supply sources and locating dozens of sites for future drilling, he also provided technical training to SANAA personnel and staff from NGOs working on water projects.



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## **Dominican Republic**

In the Dominican Republic, Hurricane Georges caused widespread damage to infrastructure, homes, water systems, crops, and businesses, especially in the southern and eastern regions of the country. Peace Corps Volunteers serve in some of the most devastated areas of the country working in agriculture, education, environment, forestry, water and sanitation, child survival, and small business development. Immediately following Georges, Volunteers in all sectors, along with Crisis Corps Volunteers, worked in emergency response activities and have parlayed those experiences into ongoing mitigation and response efforts including promoting rapid-production crops, rebuilding of water systems, schools, and latrines, and housing reconstruction.

By incorporating disaster mitigation and preparedness into all project areas, the Peace Corps is able to extend its reach through its Peace Corps Volunteers and Crisis Corps Volunteers to large numbers of people and communities hardest hit by the hurricanes. A concentrated effort is being made to train leaders, women, youth, and staff of organizations and municipalities to plan and prepare for future disasters.

## **Peace Corps Volunteer Activities**

**Hato:** When Hurricane Georges destroyed more than half of the schools in her district, one Volunteer shifted her focus from developing teacher training modules to leading a school reconstruction program. She worked closely with eight communities in her province to rebuild their community schools, start school vegetable gardens, and initiate reforestation efforts.

**Brisas del Este:** One Volunteer was living in Brisas del Este in the outskirts of Santo Domingo when the hurricane hit the Dominican Republic. The 2,500-member community was severely damaged by Georges, and most houses were destroyed, including his. In response to the damage, he worked with a local NGO on a housing reconstruction project that benefited 25 families and helped to establish a temporary medical dispensary to provide first aid to the community. He also facilitated the procurement of two 500-gallon water tanks to provide chlorinated water to the community. As part of the project, he helped form and train a local community team to chlorinate the water and oversee its distribution. This project was said to have avoided an outbreak of waterborne disease due to the lack of potable water in the community.

## **Crisis Corps Activities**

Thirty-three Crisis Corps Volunteers have been sent to the Dominican Republic to help communities recover from Hurricane Georges. The Volunteers worked with the Red Cross, World Food Program, Habitat for Humanity, and several Dominican NGOs to construct housing, monitor food distribution, rehabilitate agriculture, and repair latrines.

Five Crisis Corps Volunteers were assigned to Habitat for Humanity/Dominican Republic to help community members repair housing in Tamayo, a town which had been covered by a three-foot blanket of mud and debris. The Volunteers helped plan and implement a project that repaired





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more than 450 houses. Team members included two Peace Corps Volunteers who had served in the Dominican Republic in the early 1960s. One went on to a 25-year career at the U.S. Department of Housing and Urban Development, and the other is a teacher with seven years of construction management experience.



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## Nicaragua

Nicaragua suffered widespread flooding and landslides from Hurricane Mitch, causing loss of infrastructure, as well as damage to homes, businesses, schools and crops. In response to immediate needs following Mitch, as well as long-term development needs in rural Nicaragua, the Peace Corps launched a new agriculture project to help the impoverished rural population recover from devastating crop loss in basic grains and to provide opportunities to generate income.

Peace Corps/Nicaragua is strengthening coordination with communities and municipalities to increase their capacity to plan, implement, and facilitate mitigation and recovery activities in such areas as latrine and water source development, health education, and soil conservation including reforestation, live barriers, and alley cropping. Throughout these activities, a special emphasis has been placed on youth development and participation.

Over the past year, 14 Crisis Corps Volunteers have worked in Nicaragua on construction projects, agriculture rehabilitation projects, and health activities with Nicaraguan NGOs as well as Project Concern, Save the Children, Catholic Relief Services, and Technoserve.

In the aftermath of Hurricane Mitch, Peace Corps Volunteers were instrumental in coordinating with church, governmental, and NGOs to get food, clothing, and water to individuals in designated refuge areas. Many Volunteers concentrated their efforts on contaminated water sources by working with local health center personnel and community leaders and going house to house visiting families, explaining the health hazards of contaminated water, and distributing bleach to purify drinking water.

## Peace Corps Volunteer Activities

**Estelí:** Before Hurricane Mitch, one Volunteer had begun working with a Mother's Club promoting balanced diets for their children and had collaborated with Doctors Without Borders on a de-parasite and supplemental-nutrition campaign. He is now making house-to-house visits in seven villages on an anti-cholera campaign organized by Food for the Hungry. He believes the success of the work stems from their organization before the hurricane. Since Mitch, he has helped eight women leaders start a fruit-tree nursery as well as a 10,000-shade-tree nursery with the assistance of the Nicaraguan Agricultural Technical Assistance Institute (INTA). He also is assisting with efforts in the reconstruction of two bridges that were washed out by the storm.

**Palo Grande:** A Volunteer participated as a member of her town's emergency action committee in Palo Grande, Chinandega. Safe drinking water was a major concern for the community, so she gave educational sessions on the importance of boiling water to purify it. She helped organize a brigade of health volunteers to go house to house and lead community meetings about preventing cholera, diarrhea, dengue, and malaria. She also helped distribute food aid to townspeople and to the 750 refugees sheltered in Palo Grande.



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### **Crisis Corps Activities**

**Jinotega:** Two Crisis Corps Volunteers assigned to Project Concern worked with groups of farmers in Jinotega, an area hit hard by Mitch. One had previously served in Honduras, and the other had served for three years in Paraguay, trained farmers in soil conservation and rehabilitation techniques and worked with families to plant community and family gardens.



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## **El Salvador**

Although some areas of the country were gravely affected by Mitch, especially due to coastal flooding in the South, El Salvador escaped the severe, widespread damage seen in neighboring countries. Because the potential for future ecological disasters and hazards is still extremely high, Peace Corps/El Salvador's programs in water and sanitation, agroforestry, and small business have placed a greater emphasis on disaster management and preparedness techniques throughout their projects.

Peace Corps/El Salvador has been bolstered by additional Volunteers who are working in municipal development to train municipal staff members and rural community groups to improve administration and organizations skills. Additionally, the Volunteers will provide permanent technical support to bridge the gap between the municipality and development agencies while supporting these agencies' development and mitigation efforts.

By incorporating disaster mitigation and preparedness into all project areas, the Peace Corps is able to extend its reach, through its Peace Corps and Crisis Corps Volunteers, to large numbers of people and communities hardest hit by the hurricanes. A concentrated effort is being made to train leaders, women, youth, and staff of organizations and municipalities to plan and become prepared for future disasters.

## **Peace Corps Volunteer Activities**

**Berlin:** A Volunteer who serves in Berlin, Usulután, was on a bus traveling to her site when Hurricane Mitch struck. Leaving the bus, she walked to her site because the road was blocked by mudslides. She spent hours working her way around slides to reach her community. Once there, she immediately joined the mayor and town council in organizing relief efforts. She stayed in her site throughout the hurricane, assisting her friends and neighbors. She has extended her Peace Corps service for one year and is currently serving as the adviser to Berlin's municipal council to develop a community disaster-preparedness plan.

**Pirraya:** A Volunteer is assigned to Pirraya, a small island inhabited by 100 families in the Gulf of Jiquilisco in the Department of Usulután. Life is hard in Pirraya, even under normal circumstances, but it was particularly difficult after Hurricane Mitch. All families were evacuated during the hurricane; returning families found that saltwater had intruded into the community's precious drinking water sources. Since then, the Volunteer has worked with his neighbors to obtain funding for rehabilitating and improving the community's access to safe drinking water. It appears likely that, through his efforts, a donor will build an innovative new water catchment basin in the island's center, the only viable long-term solution to the community's water problem.

## **Crisis Corps Activities**

Although El Salvador was not as badly affected by Hurricane Mitch as its neighbors, the country remains vulnerable to future hazards. A Salvadoran NGO working with coastal communities in Usulután requested a Crisis Corps Volunteer to work with them on a long-term plan to reduce the



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vulnerability of coastal areas to natural hazards. A former Peace Corps Volunteer from Colombia responded. Currently, he is a professor of architecture and community design at the University of Iowa, he was able to put his experience in mitigation planning to good use in helping the Salvadoran organization think through the elements of a sustainable disaster management plan.



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## **Guatemala**

Guatemala was fortunate, in comparison to its neighbors, to escape the severe impact of Hurricane Mitch but still is feeling the effects of destructive flooding and landslides. The Peace Corps program in Guatemala is using Crisis Corps Volunteers in partnership with Peace Corps Volunteers to develop disaster mitigation plans and activities, not only in response to Mitch, but also to address potential hazards such as earthquakes, volcanoes, drought, and hurricanes throughout Central America.

Peace Corps/Guatemala Volunteers work in community disaster awareness and preparedness, water and sanitation system reconstruction, reforestation, community infrastructure and management, watershed management, small business training for micro–enterprise development, sustainable small–scale agriculture, and household food security. By incorporating disaster mitigation and preparedness into all project areas, the Peace Corps is able to extend its reach, through its Peace Corps and Crisis Corps Volunteers, to large numbers of people and communities hardest hit by the hurricanes. A concentrated effort is being made to train leaders, women, youth, and staff of organizations and municipalities to plan and become prepared for future disasters.

## **Peace Corps Volunteer Activities**

**Los Amates Village:** In 1998 the Amates River rose several meters and overflowed its banks, destroying the homes of the 17 Pokoman families in the Los Amates Village, San Luis Jilotepeque. The devastation that the Volunteer witnessed 10 hours later was total and traumatic—some people lost not only their homes but also their corn and beans stored in metal silos, their furniture, and everything they owned. Fortunately, no lives were lost. In the storm’s aftermath, she, in partnership with the Los Amates Housing Committee, a local Guatemalan NGO, requested assistance from the mayor, and other local organizations helped to reconstruct the community. CARE, the mayor, the Cooperative El Recuerdo and FONAPAZ offered excellent support and financial assistance to help rebuild the village.

## **Crisis Corps Activities**

The Crisis Corps provided eight Volunteers to work in areas that suffered extensive damage from Hurricane Mitch. One team was assigned to the municipality of Rio Hondo to help rebuild bridges, repair drinking water systems, and conduct health education workshops. This was also an area where many varieties of fruit trees washed away overnight in the flooding that resulted from the hurricane. Recognizing the farmers’ need to replace lost income, the Crisis Corps Volunteers developed a papaya project to generate cash income in the meantime. To help ensure the sustainability of the Crisis Corps project, two Peace Corps Volunteers have been assigned to the area to work with farmers on marketing and production.



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## **Eastern Caribbean**

### **Crisis Corps Activities**

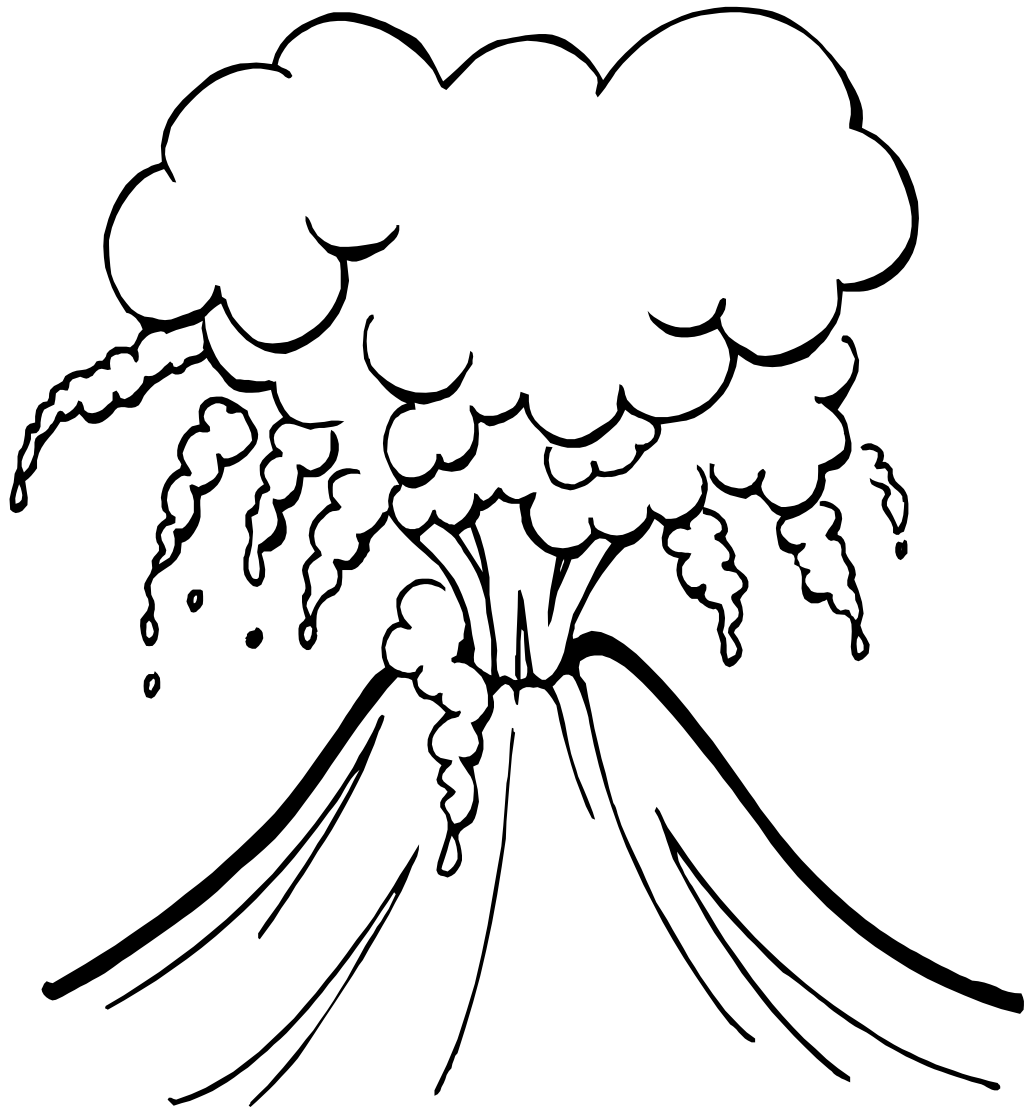
When Hurricane Georges passed through the Eastern Caribbean, a number of homes on the island of Antigua were damaged or destroyed. At the request of Antigua's National Office of Disaster Services, 10 Crisis Corps Volunteers worked with laborers from Antigua's Defense Force and the Public Works Department to help rebuild the homes of the neediest hurricane victims. In addition to providing hands-on assistance, several Crisis Corps Volunteers also developed a two-day training program for 25 local workers in hurricane-resistant construction techniques and helped create a training manual for the Office of Disaster Services titled ***Build It Strong***.

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*Rio Grande Photograph*





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*Volcano Drawing*



## Session 7:

# Capacities, Resources, and Strengths in Our Communities

## Overview

This session helps participants learn the importance of clearly identifying the strengths and resources of communities during times of disasters, and to ensure that the ‘soft resources’ (systems, plans, procedures) are not forgotten.

## Objective

By the end of the session, the participants will be able to clearly identify the main resources in their communities that can aid in disaster prevention, preparation, and response.

## Time

45 minutes

## Materials

Participant Workbook

Prepared flip charts:

- During the Emergency
- Physical Resources of the Community
- Human Resources of the Community
- Soft Resources (plans, systems)

## Delivery

### Step 1. Introduction

Introduce the session by noting that the points that were identified during the session on sharing reactions to a disaster focused on difficult and dangerous times. Remind them that often individual communities are left essentially on their own for a period of time to face and resolve problems that arise during and after a natural disaster.

### Step 2. Local Resources

- a. Provide the participants with the flip chart During the Emergency, and note that most people are able to accomplish what they need to because of the many strengths and resources available in communities. These include physical resources, such as a health center or motor vehicles. Human resources include people with particular skills, such as construction workers, plumbers, nurses, or other groups in the community. Social resources include existing groups and organizations.

- b. Point out to the participants that each resource, whether physical or human, has capacities or functions that can offer help during times of emergency or disaster. Ask for examples:
  - The function of a health center during the emergency is to treat the injured or perhaps provide temporary shelter if the health care workers and injured can get there.
  - The function of construction workers is to direct individuals and community groups in repairing roads and buildings.
- c. Ask the participants to look at page 17 of their Workbooks and together review the definitions.

### Step 3. Individual Community Inventories

- a. Ask the participants to work in their community groups and fill out pages 18 and 19 in their Workbooks, and, as possible, move on to successive pages using the examples provided in the Workbook to guide them and their collective knowledge to complete the Resource and Capacity Inventory. Point out that there are many important resources in communities that often are taken for granted. Also point out that time spent to identify resources is time well spent, because better use will probably be made of the resources. Let them know that they may not be able to finish the resource inventory now, but that they can continue working on it in their communities.
- b. Give them time to work on the exercise and tell them that each group will share their inventory with the larger group.

### Step 4. Summary

Close the session by asking how the work is going, and whether any group was able to finish the resource inventory. Ask a few people to give one example of a physical resource, one example of a soft resource, and one example of a human resource. Thank the participants for their efforts.

## Resources

The following specific resources would be helpful to this session.

Materials on individual disasters in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*.

## Session 8:

# Mapping

### Overview

This session helps the participants build their mapmaking skills.

### Objectives

By the end of the session, the participants will be able to:

1. Develop their community's maps.
2. Indicate important risks and physical resources on maps.

### Time

3 hours

### Materials

Blank flip chart

Prepared flip charts:

- Example of Destructive Event Damages and Losses
- Resource Inventory Questions
- Problem, Results, Resources

Black, red, and green fine–point and regular–point permanent markers

Rulers

Pencils

### Preparation

Information from the *Disaster Preparedness and Mitigation PST Module*, Part Two, Session 2: **Community Risk Analysis and Mapping**, as well as the disaster–specific materials in the Appendix are relevant to this part of the IST. The trainer should review that part of the PST and draw from relevant information presented there.

### Delivery

#### Step 1. Introduction

Let the participants know that they will have the rest of the afternoon to continue working on their maps. Tell them that their task is to:

1. Draw all the physical elements of their community on their map, using black markers.
2. Designate the risk areas using red markers.
3. Designate the physical resources that can be used during emergencies using green markers.

Ask if there are any questions. Tell them that they will be getting back together in two hours to see what they have accomplished.

### **Step 2. Presenting Maps**

During this step, participants briefly present the map(s) they have made. Allow each group five minutes to present their map. Training staff should ask questions that will guide participants to a complete and accurate product. Compare and contrast the maps. Ask the participants to identify the strengths and weaknesses of each map. An additional community member may be invited to attend the presentations and serve as a reviewer/ commentator.

### **Step 3. Listing Destructive Events, Damages and Losses**

- a. Using the format in the box below (but adapting the information for local conditions), direct the participants in making a list of destructive events and damages and losses. Headings on flip charts should be prepared in advance.

#### ***Examples of Destructive Event Damages and Losses***

Volcanic eruption of 1978

- 45 houses destroyed
- 6 lives lost
- Crops and livestock destroyed

Hurricane Crazy, 1999 (caused flooding of “Big River”)

- 25 houses destroyed
- All crops along the riverbanks lost
- Places of worship washed away
- Bridge into town destroyed
- Power lines and water system destroyed

- b. Probe the participants to find out if they have enough information to indicate the areas on their maps most prone to damage and loss. For example, during Hurricane Crazy in 1999, 25 houses were destroyed. Do they know where those houses were located? Have they been rebuilt on the same site? How far did the flooding extend? Are those areas still vulnerable? Have any mitigation efforts been instituted since the disaster?

### **Step 4. Getting Vulnerability Information**

Introduce and provide information for the next independent task, which involves having the participants identify, to the extent possible, information about their communities that were and were not damaged during past destructive events.

- a. Note that the most vulnerable areas are: (include, as relevant) areas close to town or within the jurisdiction, as well as areas susceptible to mudslides and other disasters.
- b. Ask the following question: Why is it important for a community to know where its most vulnerable areas are prior to an emergency or disaster? (*In order to evacuate those*

*in danger or take other preventive actions to reduce damage and loss; to plan and carry out mitigation activities.)*

- c. Point to the prepared flip chart Resource Inventory Questions and fill in responses given by participants following the questions on the flip chart.

**Resource Inventory Questions**

What problems did the community face during recent emergencies and disasters?

How was it able to respond during the most recent emergency? What resources were on hand and put to use?

What was needed, but not available?

- d. Note the importance of recognizing and being able to access the local resources during the BEFORE phase of the disaster cycle by giving an example (one example is provided below).

**Example of the Importance of the Early Knowledge  
of Local Resources in a Disaster**

In many communities in Honduras, annual flooding is a reality. Year after year, the flooding, along with massive mudslides, has gotten steadily more serious and widespread as deforestation and traditional agricultural practices have depleted the forests and hillsides throughout the country. The massive rainfall accompanying Hurricane Mitch in 1998 resulted in a disaster of gigantic proportions destroying homes, bridges, roads and crops and flooding towns and villages in nearly the entire country. Innumerable communities were cut off by fallen bridges, washed-out roads and raging rivers where streams used to be. Cities, towns and villages were left on their own. It was impossible for adequate assistance to arrive. These communities found themselves solving a myriad of problems, including sheltering the homeless, providing medical care to the sick and injured, supplying food and clean water to local residents, reestablishing electric service, and other activities. Most communities were caught unprepared, although the ability for even the poorest community to pull together and solve their most pressing problems was impressive. As a result of Hurricane Mitch, many communities are taking disaster preparedness seriously, and have put together emergency plans which include identification of the resources they have on hand to face future problems.

- e. Provide a quick “reality check” for the participants by providing them with “what if” questions about specific situations that they might find in their host country:
  - 1. What tools or equipment would be helpful for the community to have in case of a flood? Who has the rowboats or canoes? Who has the shovels and picks? Who has gas or kerosene stoves?
  - 2. Where is higher ground that is likely to be untouched, and how far away is it?

3. How will community members get there?

Note that these kinds of low–cost, low–technology resources are found in many communities, but not necessarily considered as resources.

**Step 5. Resource Preparedness**

Begin a Resource Preparedness Exercise by presenting a flip chart (prepared in advance) that reads, Problem, Result, Resources. Ask participants to help fill in the information. Let them know that this is the type of information that they will be gathering from the community. The following are examples (alter the examples using the type of disaster that is likely in their host country and local names):

- a. Problem (e.g., the bridge washed away)  
Result (e.g., there is no access to town, no food is coming in)  
Resources (e.g., canoes are at M. Bouhafa’s [change name to fit circumstances] house, the silos at the agricultural co–op have grain enough for two weeks).
- b. Problem: Electric lines down  
Result: There is no power for stoves  
Resources: Six homes have gas stoves and three have extra gas cylinders. There are small private generators in the homes of Haj Jabra and Mme. Zohra.
- c. Problem: 25 homes destroyed by flooding and high winds  
Result: 25 homeless families, sick children  
Resources: Shelter at school, cots available at the Forest Service retreat camp, health clinic has one month supply of basic medicines and supplies on hand.

Tell the participants that it will be important to use people and records to provide the most complete picture possible of the risks and resources the community has in order to be better prepared to face future emergencies.

**Step 6. Completing Community Maps**

Provide another 30 minutes or so for the participant teams to color in their community maps. The actual coloring in of the community map should follow guidelines established by the local civil defense or emergency management agency. The colors and symbols used to represent various conditions and objects should be standardized. Suggestions for colors and symbols are included as an attachment. Have the groups indicate risks and vulnerable areas using red markers, and physical resources using green markers on their already completed community map. Process the information that the map displays, and discuss where the map should be posted and/or what next step the participants would like to take with it (e.g., copy it for each member of the group).

**Step 7. Closure**

Wrap up the exercise with a discussion about what the participants learned from the mapping experience. Use these questions as a guide:

- Have there been surprises?
- Has the activity allowed you to learn more about the community?

- What happens when you look at an area close up versus far away (that is, what differences are there when one focuses on a small mapped area versus a large area)? Do the risks or vulnerabilities that are perceived and mapped change?
- Has this exercise been useful?
- With whom could you do this exercise at your sites (organized groups, neighbors, municipal workers, schools, etc.)?
- When is an appropriate time for you to get involved with community mapping in your community?

Congratulate everyone on the work they have done, and let them know what the next activity will be.





## Session 9:

# *The Effective Facilitator*

### Overview

After carrying out the pilot test of the IST, the Peace Corps found that the most common activity carried out by the participants in their communities during the follow-up period between Parts One and Two of the IST was the replication of the IST, in whole or in part, with community members. This session shows participants different styles of training facilitation and teaches them about participatory learning, a process that may contrast with the formal type of education that most participants have had in the past. Participatory learning is a part of most informal educational processes and provides a hands-on learning experience that promotes self-discovery, sharing, and equality in the learning environment.

### Objectives

By the end of the session, the participants will be able to:

1. Identify the characteristics of an effective facilitator.
2. Identify the characteristics of an effective training activity and compare them with the characteristics of ineffective activities.

### Time

1 hour

### Materials

Blank flip chart, markers

### Preparation

Two people (from the Peace Corps or the host country) need to be brought in and prepped to provide two styles of a short presentation. The first trainer should be instructed to act in a superior manner, occasionally banging a ruler on the table or lectern (particularly if there is talking or laughing), scolding the participants, and refusing to address input or questions – but this should be done in as “real” a manner as possible, avoiding the look of an “act.” Another individual should provide similar information to the information provided by the Autocratic Presenter, but in a manner that is in keeping with a participatory manner (see examples in Delivery, Step 2).

### Delivery

#### Step 1. Introduction

After carrying out the pilot test of the IST, the Peace Corps found that the most common activity carried out by the participants in their communities during the follow-up period between Parts One and Two of the IST was the replication of the IST, in whole or in part, with community members. This session shows participants different styles of training

facilitation and teaches them about participatory learning, a process that may contrast with the formal type of education that most participants have had in the past.

## Step 2. The Effective Facilitator

Tell the participants that there will be two short presentations during this session on community disaster preparedness plans, but that the methods for presenting will be quite different. Ask them to pay attention to the various characteristics of the two training styles and to determine which they think is more effective, and why.

- a. The first trainer presents using an autocratic style as described below.

### ***Autocratic Presentation***

Today we are going to have a class entitled **Community Disaster Preparedness Plans**. Who brought their plans with them? Nobody? How can that be? Why do you think I invited you to this workshop over a month ago, if it wasn't to give you time to get your plans together? What is wrong with you? You're not doing what you're supposed to. I don't want to hear any excuses: "I don't have time, I don't know how to do it" is not acceptable. If you can not do your jobs, perhaps someone else can. Well, since you don't know what you're doing, I will just tell you exactly what it is that you have to do.

First, completely fill out pages 3 through 22 in your Workbooks. You need to type all the information on a computer and send it to me no later than a week from Friday. If you do not have electricity or computers in your community, find a place that does.

Then, convene a meeting of the coordinators of your Municipal or Local Disaster Committee. They will need to complete pages 23 to 54 in the Workbook, and once again type all the information that they should turn in to you no later than two weeks from Friday. If there is no committee formed in your town yet, you will, need to have it completed by the deadline.

Once I get your information, I will correct and change it as necessary, and send it back to you. You will make the changes on a computer at that time. You will then send the original back to me. I will provide it to the Peace Corps country and Washington offices and various Ministries. If you feel that you need a copy in your community, request it from the Peace Corps Headquarters Office.

That is all for now. I have to go. There is no time for questions. I suggest you get to work.

- b. The first trainer leaves, the other trainer enters and begins to provide similar information, but in a different manner.

### ***Participatory Presentation***

Hello, how are you all? It is a great pleasure to be with you again, as we continue learning together. This evening we will spend a little time talking about Community Disaster Preparedness Plans. As we have seen throughout the day, there is an incredible amount of knowledge and experience in this room, and plenty of good ideas for each of you to share with your colleagues.

To begin with, why is it important to have a Community Disaster Preparedness Plan? (Allow time for participants to respond.) Yes, those are all excellent ideas. What ideas do you have about what to include in the plan? Who should write the plan? (The members of the community.) Those are all great ideas.

Now, in order to get started on your plans, spend the next two minutes working with the person sitting next to you. Write a list of all the things you would like to include in the plan for your communities. Does anyone have any questions?

Who wants to share an idea with the rest of the group? (Allow three or four people to share.) Fantastic! I know it is late, and you have all worked incredibly hard today. So let's put the lists away for now. Tomorrow we will do further work on your plans. Any questions?

### **Step 3. Analyzing Presentation Styles**

- a. Ask the participants which trainer was more accessible, and likeable and more likely to be successful with a group. Make a list of the different characteristics of the trainers, writing them down on the flip chart as the participants identify them. Point out, however, that cultural differences likely will affect types of presentation styles. Point out, also, that participants should try to become aware of those and form styles that both meet cultural norms and provide the most likely chance of successful outreach.
- b. Good characteristics might include
  - Respect for participants
  - Interest in the ideas of all participants
  - Ability to listen to the participants
- c. Negative characteristics might include
  - Insulting manner and words
  - "Talking down" approach to participants
  - Domineering manner
  - Unwillingness to entertain ideas or questions
- d. Close the session by asking the participants which facilitator they would most like to learn from or be guided by, and which type they would most like to be. Facilitate a discussion with participants about why they think people act in each of the ways that was presented and what actions they think they can take if they see or exhibit this type of behavior. Ask participants to take into consideration specific cultural nuances in the discussion both about why people do things and what can be done about certain

behaviors. Ask them to be specific, pointing to the behaviors of government officials versus community members, for example.



## Session 10:

# Analysis Exercise

### Overview

This session helps participants practice and reinforce their community mapmaking skills.

### Objectives

By the end of the session, the participants will be able to better apply the concepts introduced during day one, including vulnerabilities, hazards, risks, and human and physical resources.

### Time

2.5 hours

### Materials

One card per participant with words or drawings of vulnerabilities, risks, hazards, and resources:

- Vulnerabilities—house near river, corn planted on unstabilized/steep hillside, treeless watershed
- Risk—landslides, dam
- Hazards—volcanoes, typhoon, flood
- Physical resources—rowboat, shovel
- Human resources—nurse, sports team

Participant Workbook

Blank flip chart, markers

### Delivery

#### Step 1. Review of Definitions Game

- Give each participant a card with a word or drawing representing a vulnerability, hazard, risk, human resource, or physical resource. Instruct the group to form five smaller groups that reflect what their words represent. Give them time to do this.
- Ask each group to describe itself. Show them the definitions on the flip chart. Confusion often exists between hazards and risks, and in fact an event such as heavy rains can be interpreted as both a hazard and a risk. If participants are confused, explain that there is overlap in some cases, but the most important objective of this and the following activities is to give participants a better understanding of the dangers they face and the resources they have to combat those dangers.
- Ask which group formed first. The first group to form itself correctly wins the game.

#### Step 2. Analysis Exercise

- Divide participants into five groups. Assign each group a different topic: vulnerability, hazard, risk, human resource, or physical resource. Ask them to analyze the place

- where the workshop is being held\*, making note of anything that applies to their topic and depicting it on a rough map or sketch of the site. Refer the participants to pages 13, 17, and 18 in their Workbooks. Tell participants that there is a worksheet for the exercise on page 30 of the Workbook. Tell them that they will have one hour to complete the analysis and plan a presentation to the rest of the group.
- b. Allow approximately one hour to complete the analysis.
  - c. Have each group present their findings. Clarify any questions and identify any links to similar activities that could be carried out at the community level, such as networking with local or political organizations in the communities that can help identify and provide the information above.

\*If appropriate, participants need to consider developing a model community that is representative of the community where they live.

## Resources

The following specific resources would be helpful as background to this session.

Anderson, M.B., and Woodrow, P.J. *Rising From the Ashes; Development Strategies in Times of Disaster*. Boulder, CO: Lynne Rienner Publishers, Inc., 1998. (ICE number CD056)

Materials on individual disasters in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*.

## Session 11:

# Family Preparedness Plans

### Overview

This session helps participants be better prepared for emergencies and disasters at the family level. The Volunteer Handbook and Emergency Action Plan (EAP) contain information important to this session.

### Objectives

By the end of the session, the participants will be able to:

1. Explore ideas about how to be better prepared to deal with emergencies and disasters at the family level.
2. Identify measures that can be taken to prevent disasters at home.

### Time

45 minutes

### Materials

Situation cards (two copies of each)

Copies of the Red Cross pamphlet entitled *Family Emergency Plan* (optional)

One copy of the EAP for each participant, if they have not already been distributed

Volunteer Handbook, for each Volunteer

Flip chart, markers

### Preparation

Information from *Disaster Preparedness and Mitigation PST Module* Part Two, Session 2: **Community Risk Analysis and Mapping**, as well as the disaster-specific materials in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions* are relevant to this part of the IST. The trainer should review that part of the PST and draw from relevant information presented there. Additionally, in part of this session, a co-facilitator is needed. If only one person has been facilitating, it will be necessary to have an assistant trainer, such as another Peace Corps staff person. That person should not be a participant in the training.

Locate copies of the Red Cross pamphlet from the nearest Red Cross source.

### Delivery

#### Step 1. Introduction

Introduce the activity by asking the participants who the most important people in their lives are. (*Most likely family members: children, spouses, parents, etc.*) Then ask who they are most likely to want to protect in the face of a hazard. (*The same individuals.*) Ask them what

would be the best way to be prepared at the family level. *(With a family emergency plan.)*  
Finally, tell them that in this session they will put together a family emergency plan.

**Step 2. Group Task: Family Action Plans**

- a. Ask the participants to divide themselves into six groups.
- b. Tell them that each group represents a family, and will receive a description of a situation that their families might face.
  1. Each family first needs to discuss the situation and the options they have to resolve it.
  2. Then prepare a dramatization about their situation to be presented to the rest of the group.
  3. They will have 15 minutes to discuss their situation and prepare their presentations, and then three minutes per group to present.
- c. Distribute the family situations below, giving each situation to two groups, and ask them to start to work. Trainers should circulate as the participants work.

***Family Situations*****Situation #1**

Your house is located on the riverbank. It is 10 p.m. It has been raining nonstop for three days, and the river has risen quite high. There is a good possibility that tonight the river will flood your house. What would you do? Be specific.

**Situation #2**

Your family lives in a house that is not “hurricane resistant” and yet a hurricane is expected to hit within one day. What would you do? Be specific.

**Situation #3**

If you knew that a major storm was going to affect your area and cut off access to your town for a week, what would you do in order to be prepared at the family level? Be specific.

**Situation #4**

A fairly severe earthquake has hit. You are not at home, but a family member is. What would you do. Be specific.

**Step 3. Presentation of Actions**

- a. Have the participants regroup into two large groups made up of members of each family from Situations 1 to 4 in each group. A co-facilitator should attend to one of the groups.
- b. Have each family give their presentation. After each one, ask the group that was watching to describe the scenario. Then ask: “Are there any questions? Does anyone have anything to add? Would you handle this situation the same way? Differently?”



- c. After the last presentation is given, ask the following question: “What should be included in a family emergency plan?” List the answers on the flip chart.
- d. Reconvene the large group. Have each group present their list of ideas of what to include in a family emergency plan.

**Step 4. Closure**

- a. Close this activity by asking the following questions:
  - 1. What did you learn from this activity?
  - 2. What was the most important learning for you personally?
  - 3. Are there any related issues that anyone wants to discuss?
- b. Distribute copies of the Red Cross pamphlet entitled *Family Emergency Plan*, if available.

## *Session 12:*

# *Formal In–Country Disaster Agencies and Organizations*

### **Overview**

This session provides an overview of formal agencies and organizations that deal with disaster preparedness and mitigation. The intent is to give participants a sense of what currently exists and with whom they can work to address DPM efforts at the community level. If there is no agency in the host country that focuses on these issues, the trainer, drawing on in–country resources such as government officials or community members, should use this time to identify and address a framework for organizing emergency responses at the community level. The trainers may wish to introduce such a framework, or provide the basic structure for it to which the participants add. Either way, this framework is key for carrying out later sessions and activities, for the content and design of the Participant Workbook, and for follow–up work done by the participants in their communities.

### **Objectives**

By the end of the session, the participants will be able to:

1. Identify the legal framework and historical background of the in–country agency that deals with DPM.
2. Describe existing local municipal and local emergency agencies and how they are organized.
3. Describe other relevant in–country agencies or structures, their functions, and basic requirements.

### **Time**

1.5 hours

### **Materials**

Flip chart, markers

Handout on in–country agencies and organizations involved with DPM

### **Preparation**

Prior to this session, the trainer should contact in–country government and community organizations and have them supply a speaker or resource person who can describe and provide a handout of the existing structures and activities available for DPM.

## Delivery

This activity is led by a host country representative when formal institutions exist to address DPM, and by the trainer and perhaps a country representative if there is no formal agency in place. The session leader should be sure to include available information about

- The historical background of the relevant agencies.
- The legal framework of the agency and related organizations or structures.
- A description of municipal and local emergency committees.
- Any steps that have been taken to prepare for a disaster or an emergency situation.
- The anticipated community response to a disaster.
- Any lessons learned from previous disasters.



## Session 13:

# Community Disaster Preparedness Plan (a): During

### Overview

This session allows the participants to take part in a disaster simulation that will help them learn to develop emergency plans.

### Objectives

By the end of the session, the participants will be able to:

1. Simulate community response to an emergency situation.
2. Define the responsibilities of a specialized existing agency or organization during an emergency or identify an appropriate community response.
3. Emphasize the importance of having a plan in place before an emergency.

### Time

1 hour

### Materials

Participant Workbook

Signs of community roles:

- Mayor
- Commission members
- Community members

Map of imaginary community

Prepared flip charts:

- An Important Message
- Mayor's Prepared Announcement
- Roles for the Members of the Long Road Municipal Emergency Committee

Flip chart and markers

### Preparation

The trainer should review the flip charts in this session to see if they are country appropriate. If other types of disasters are more common to the host country, the trainer should change An Important Message and Mayor's Prepared Announcement to reflect country realities and conditions. Likewise, the trainer should review the roles presented in Roles for the Members of the Long Road Municipal Emergency Committee and change them as needed to ensure they are culturally appropriate.

## Delivery

### Step 1. Introduction

- a. Introduce this session by noting that the group has so far covered a lot of ground, having to this point discussed
  - Different kinds of disasters
  - Experiences during disasters
  - How to analyze risks and hazards
  - How to complete a community resource inventory
  - What to include in a family emergency plan
  - Activities that a community can carry out prior to emergencies to be better prepared.
- b. Tell the participants that the information covered so far will help them in this session, which focuses on developing Community Preparedness Plans.

### Step 2. Simulation

- a. Tell the participants that they will be participating in a simulation and give them the following information and materials:
  - All workshop participants are now members of a community called Long Road.
  - Each participant has a role in the community. (The trainer assigns roles to participants at this point. See *Roles for the Members of the Long Road Municipal Emergency Committee* at end of session.)
  - Each participant receives a sign, which they are to tape or pin to their chests.
- b. Ask the participants to pay close attention to the following announcements: Read the Important Message announcement and have the person designated as Mayor read the Mayor's Prepared Announcement.

#### ***Important Message***

Attention, attention, one and all! This is an important message for all the residents of Long Road. You are hereby advised that within the next few hours, because of the heavy rains that have been falling for the last week, we are expecting massive flooding. Bad River is rising quickly. I repeat: There will be massive flooding within the next few hours. The Mayor is hereby notifying all members of the Municipal Emergency Committee that a committee meeting will begin immediately. Report immediately to the Mayor's office.

**Mayor's Prepared Announcement**

Good day, ladies and gentlemen, members of the Long Road Municipal Emergency Committee. We are meeting here today to talk about the emergency that is fast approaching.

Government officials and meteorologists from the region have issued warnings that within hours there will be massive flooding throughout the region.

In my capacity of Mayor, I am hereby declaring a red alert. The municipal offices are, as of now, converted to the Emergency Operations Center and I, your Mayor and President of the Municipal Emergency Committee, must approve all decisions related to the emergency.

Time is of the essence. As soon as we break, each Commission will meet and 20 minutes from now, we will all return here so that each Commission can present the detailed emergency plans that they intend to implement during the emergency to the Mayor and the community.

Remember, the safety and well-being of every member of Long Road depends on you. We are on our own and can expect no outside help for some time.

- c. Ask the participants portraying the Commissions to get together to discuss what needs to be done immediately and in the short term to deal with the existing situation while the trainer and the Mayor walk around to listen. Tell participants they may use information in their Workbooks if they have questions or concerns that arise in their groups.
- d. Have the Commissions report to the Mayor and the community members to answer further questions and doubts. Participants should answer questions in their roles, rather than the trainer answering them.

**Step 3. Debrief**

- a. Tell everyone to move out of their role and take seats.
- b. Wrap up by asking
  - 1. What was the result of the different activities and commissions? (*A Community Action Plan for the DURING phase of an emergency or disaster or conflicting ideas and no concrete plans*).
  - 2. What information moved the process forward? (*Specific ideas, identification of resources*)
  - 3. What hindered the process?
  - 4. What is the name for what just took place during the training, when the group made believe they were in a disaster situation and made necessary decisions and plans about how to face it? (*A simulation.*)
- c. Note that developing a Community Emergency Action Plan and conducting simulations are two fundamental elements of community disaster preparedness, and that, without a

plan, no one knows what to do during an emergency. Without a simulation, no one knows if the people can do what they need to do and if the activities they have in the plan are going to work.

#### Step 4. Closure

- a. Close this session by asking the following questions:
  - What did you think of this activity?
  - Did you enjoy it?
  - Was it difficult?
  - Were you prepared for the emergency? (*more or less, not really*)
  - What can we do in our communities to be better prepared for emergencies? (*Know before the emergency or disaster strikes what each person's responsibilities are. Have already created the Community Emergency Action Plan. Practiced the plan through simulations. Conducted other related activities.*)
- b. Finally, note that planning is the key to effective DPM. The planning process includes a clear delineation and understanding of roles, responsibilities, what needs to happen, and what will happen. Finally, ask when planning takes place in the Disaster Cycle: as a part of the BEFORE, DURING or AFTER phase? (*Before.*) Note that the BEFORE phase—the most important phase for any community as it prepares to face disasters and emergencies—will be discussed in more detail during the next activity.



## Trainer List

### ***Roles for the Members of the Long Road Municipal Emergency Committee***

#### **Mayor**

#### **Health Commission**

Coordinator: Doctor

Collaborators: Health Promoter

Midwife

Housewife

Nurse

#### **Education Commission**

Coordinator: Primary School Director

Collaborators: President of the Environmental Club

High School Teacher

Primary School Teacher

High School Secretary

Peace Corps Volunteer

#### **Logistics Commission**

Coordinator: Bus Owner

Collaborators: Religious Leader from One Religious Group

Religious Leader from Another Religious Group

Housewife

Small Storeowner

Local Representative of World Vision

#### **Rescue and Evacuation Commission**

Coordinator: Sports Team Coach

Collaborators: Farmer

Rancher

Sports Team Member

#### **Security Commission**

Coordinator: Justice of the Peace

Collaborators: Police Officer

Telephone Operator

Physical Education Teacher

**Other possible roles:** President of the Savings and Loan Cooperative, Director of the Civil Registry Office, President of the Civilian Council, Truck Owner, Agricultural Extension Agent.

### ***Sample label for a participant***

Primary School Director

**Coordinator: Education Commission**



## Session 14:

# Community Disaster Preparedness Plan (b): Before

### Overview

This session focuses on the preparation that is needed BEFORE a hazard hits. It allows the participants to consider the What, Why, How, Where, Who and When of the development of a Community Emergency Action Plan.

### Objectives

By the end of the session, the participants will be able to:

1. Present an example of what a thorough Community Emergency Action Plan might look like.
2. Present a rough draft of BEFORE activities for each Commission of the Emergency Committee.

### Time

1 hour

### Materials

Participant Workbook

Prepared flip chart:

- Community Emergency Action Plan: Before

Large ball

### Preparation

Before this session, the trainer should have contacted various government and community organizations and identified a resource person from the host country who can 1) provide information on existing organizations and the DPM activities that the organizations perform; or 2) provide guidance on a likely scenario if there are no institutions in the host country dealing with DPM.

The trainer may find it useful to have this person present during the session. At the beginning of the session, the trainer can introduce the resource person and describe his or her position. Additionally, the trainer can give the resource person a specific role for the activity, which also should be explained to the participants. For example: “Mr. Hernandez will answer any questions you have about existing DPM organizations and procedures later in this activity.” Finally, the trainer should allow time at the end of the session for the resource person to answer any additional questions from the group.

## Delivery

### Step 1. Introduction

- a. Ask the participants if they felt prepared in the last activity (the community simulation). Ask them in what ways they were ready or not ready. Reiterate the importance of the Emergency Action Plans and simulations.
- b. Explain that during this session, they will be thinking more about all the things they can do today that will benefit their communities in the long term. Remind them of the previous activities that focused on exploring the relationship between disasters, poverty and vulnerability, and helped them identify the actions that can be taken now to reduce the future vulnerability of communities (Part One, Session 6: **Hazards and Risks in Our Communities**, and Session 7: **Resources and Strengths in Our Communities**)

### Step 2. Before Phase Matrix

- a. Note that all of the activities such as reforestation, education, and strengthening buildings are a fundamental part of the BEFORE phase of the disaster cycle, and of the development of community plans. Stress that the BEFORE phase includes many activities, both long- and short-term, and involves many community members.
- a. Draw a matrix (like the one below, but without the example) with which the group can develop an action plan for a BEFORE phase activity. Ask the participants to take the next few minutes with you to identify an activity that could be included in the BEFORE part of a community plan and then they suggest how to fill out the matrix (example is below).

### BEFORE Phase Community Plan Activity

What?	Why?	How?	Where?	Who?	When?
Organize a simulation with members of the Municipal Emergency Committee	To practice, better define roles and responsibilities	Present the idea to the Mayor	Town hall	Marcos and Virginia (workshop participants)	15 June
	To identify weaknesses in the plan and make adjustments	Prepare the script for the simulation	Marcos' house	Marcos and Virginia	11–20 June
		Notify members of the Emergency Committee of the activity and the date with a note signed by the Mayor.	Throughout the community	Marcos, Virginia, municipal secretary	16–22 June

- c. When completed, review the BEFORE Phase Community Plan Activity to be sure that the parts relate to one another and that nothing critical has been forgotten. Ask them if they think it necessary to answer all six questions. Why or why not? After the discussion, remind participants that they will be focusing on the hazards and vulnerabilities in their communities when they return there. Ask if there are any questions.

### **Step 3. Community–Specific Activities**

- a. Explain that to prepare for work in their communities, they need to consider appropriate community–specific activities and disaster scenarios. Ask them to look at pages 36 to 40 of their Workbooks for samples of activities that could be included in a BEFORE plan.
- b. After they have reviewed the material, ask if they think any of the ideas in the Workbook would be useful to their communities. If so, which ones? Then, ask if they have other ideas of what might be useful and how they would apply them.

### **Step 4. Long– and Short–Term Prevention and Preparation**

- a. Tell the participants that the next activity involves thinking about how they can best work with other people from their community or from neighboring communities. Tell them that they have 25 minutes to complete the following tasks:
  1. In the large group, brainstorm and list long– and short–term prevention and preparation ideas that can be carried out in their community during the BEFORE phase. Stress that each community is different and that they should be realistic about what would be feasible. Have them record all the different ideas in their Workbooks.
  2. Ask participants to open their Workbooks to page 41 and, using the activities listed on pages 41, 43, 45, 47, and 49, have them identify at least one activity for each Commission—both long–term and short–term—as you list them on a flip chart.
- b. Tell them that they will be asked to share their information with the entire group.

### **Step 5. Conclusion**

- a. Conclude this session by asking the participants how they think their group work went. Did they finish? If not, tell them you recognize that it is a lot of work, and takes time. Tell them that completing this activity in their communities will probably take more time and will require a good deal of input from other community members to complete.
- b. Explain that each person is going to be given a chance to identify one activity that can be done during the BEFORE phase. Ask them to stand with their groups. Get out the large ball and tell the participants that whoever catches the ball needs to provide one BEFORE activity, and then sit down so that all have a chance to share their ideas. Toss the ball while someone records all of the answers until all are seated. Review the responses and congratulate them on their work.

## Session 15:

# Community DPM Follow–Up Plan

### Overview

This session helps participants start planning for the actual DPM work they will do in their communities.

### Objectives

By the end of the session, the participants will be able to:

1. Underscore the importance of the community as the primary resource for its members in disasters and emergencies.
2. Design a plan of DPM activities they will carry out in their communities before the Follow–Up Workshop.

### Time

1.5 hours

### Materials

Workbooks

Paper, pens

Prepared flip chart

- The challenge is to share learning with others and motivate neighbors to complete the Community Emergency Action Plan

Blank flip chart and markers

### Preparations

The trainer should duplicate the format of page 52 of the Participant Workbook on the flip chart so that information can be recorded as provided by the participants.

### Delivery

#### Step 1. Introduction

Tell the participants that they have now arrived at the most important point of this workshop, when we ask the questions: Now what? What are we going to learn about/do with our communities? When we reconvene in six weeks, what are we going to tell each other?

#### Step 2. Potential Activities

Ask them to open their Workbooks to page 52, and ask someone to read it aloud. Ask them to call out the ideas they have to share information, to motivate community members, for activities to conduct in the community, while the trainer notes these ideas on the flip chart. Ask them to record these ideas in their Workbooks on page 52.

**Step 3. Planning by Community Group**

- a. Ask the participants to gather by community group and, after the group as a whole reviews the content of Workbook pages 53 and 54, complete those pages in the order of how the activities happen. During the review, emphasize the importance of each of the columns.
- b. Tell the participants to be realistic in their plans and to turn in a copy of their ideas to you at the end of the session so that you can review them and provide feedback.

**Step 4. Sharing the Plans**

- a. When the group reconvenes, ask them to share the ideas that have been generated.
- b. Congratulate the participants on a job well done.
- c. Note that this classroom exercise should be taken back to their communities to be validated or updated. Then they will actually carry out some of the activities with the community.
- d. Review the schedule for the rest of the training.



*FOLLOW-UP PLAN FOR THE COMMUNITY OF:* \_\_\_\_\_

**REPRESENTATIVES:** \_\_\_\_\_  
\_\_\_\_\_

ACTIVITY	WITH WHOM?	WHEN?	COMMENTS

**(Samples from Honduras)****Soledad, EP**

<b>ACTIVITY</b>	<b>WITH WHOM?</b>	<b>WHEN?</b>	<b>PURPOSE/OTHER COMMENTS</b>
Convocation by the Mayor	Village and subvillage local emergency committee representatives	February 1	Inform them about work done in Choluteca workshop
Community meeting in the municipal headquarters	With members of village and subvillage representatives	February 15	Review of the different activities each committee should carry out
Plan the current year	Committee members	February 28	Year 2000 activities
Put gabions along bend in river above town	Road crew/Volunteers and committee members	Dry season	Protect town from flooding

**Monjarás, Marcovia**

<b>ACTIVITY</b>	<b>WITH WHOM?</b>	<b>WHEN?</b>	<b>PURPOSE/OTHER COMMENTS</b>
Meeting with the Local Emergency Committee	Local Emergency Committee	February 2	Share information
Visit the Mayor of Marcovia	President of Local Emergency Committee	February 11	Motivate Mayor to support effort to organize and train committees in the villages
Draw risk and community information map	Committee members	February 22	

## *Session 16:*

# *Closing and Evaluation*

### **Overview**

This session provides closure for Part One of the workshop.

### **Objectives**

By the end of the session, the participants will be able to:

1. Put closure on the workshop and be motivated to continue working during the follow-up period between workshops.
2. Evaluate the workshop.

### **Time**

1 hour

### **Materials**

Participant Workbook

Empty folder

Prepared flip chart:

- Listing of the Part One sessions

### **Delivery**

#### **Step 1. Review**

Tell the participants that you would like them to conduct a brief review of Part One of the IST by looking at the list of sessions on the flip chart that were conducted during Part One of the IST and then having one person in turn from the individual community groups recall, to the extent possible, the information on the specific subject and note what was important to them about that specific part of the training. Go around from one group to the next until all of the training sessions are covered.

#### **Step 2. Next Workshop**

Stress to the participants that the end of the training has come, but that they are just at the beginning of their work in disaster preparedness. Remind them that there is much to do upon returning to their communities. Thank them for the work that they have done during the past two days. Tell them that you think their plans are good. Repeat the dates and times of the follow-up workshop, and write them on a flip chart. Ask if there are any final comments or questions.

#### **Step 3. Evaluation**

Ask participants to fill out the evaluation form at the end of the Workbook. The evaluation is very important to the Peace Corps in that it will help improve the workshop for other groups,



as well as improve the follow-up workshop. They do not have to put their names on the evaluations. Put their completed evaluations in the folder when they are finished. Wish them success in carrying out their plans and tell them that you will see them at the next workshop.



## **Part Two:**

# **The Role of the Volunteer in Disaster Preparedness and Mitigation**

### *Introduction*

This section introduces the principal aspects of community disaster preparedness. It also examines the various types of possible responses.

### *Summary of Sessions*

This section provides a follow-up to Part One of the workshop. It gives a chance for the participants to hone community planning and activity skills. It reinforces the ability of the participants to play an important and active role in their communities in the area of DPM.

### *When Should These Sessions Be Conducted?*

Determination of when to hold Part Two of the IST depends on a number of factors. These include the likelihood and frequency of natural hazards in the host country, the time of year when these hazards may occur, and the number of Volunteers with previous DPM experience. Logistical considerations, such as space availability and when the training participants can all be at that place at the same time, also play a part. It will be up to the trainer, in conjunction with the country Peace Corps director and/or appropriate APCDs, to determine the timing of this follow up In-Service Training.



## Session 1:

# Preparation for Achievements, Activities, and Obstacles

## Overview

This session reacquaints participants and helps them see what they have been able to accomplish in their communities, as well as the barriers they have discovered and the lessons they have learned, so that they will be able to redirect their efforts as needed and be more successful in their DPM work.

## Objectives

By the end of the session, participants will have:

1. Become reacquainted.
2. Established an open and productive work environment.
3. Completed worksheets reporting on work accomplished since initial workshop.

## Time

1 hour

## Materials

Handout

- *Achievements, Activities, and Obstacles Worksheet*
- *Samples from Different Communities*

Prepared flip charts:

- Instructions for introductory exercise
- Community Group Follow-Up Plans

Follow-up plan submitted from initial workshop for each participating community

Nametags with the names and towns of participants

Blank flip chart paper (enough sheets for all the groups), markers, tape

## Staff

The trainer should decide beforehand if there will be a co-facilitator for the length of the training or whether a participant helper will be used in the various activities that call for an assistant.

## Delivery

### Step 1. Welcome

Welcome participants and encourage everyone to participate fully in the workshop so that they learn as much as possible from it. Remind them of how important the workshop is to their safety and the safety of their communities.

## Step 2. Introduction

- a. Reveal the instructions for the introductory exercise and tell participants that the first exercise enables them to be reintroduced to each other.
- b. Have the participants pick out a nametag other than their own from a box. Begin the exercise.

### ***Introductory Exercise***

1. Take a nametag other than your own from the box.
2. Find the person whose nametag you have.
3. Find out something new about this person.
4. Afterwards, pin the person's nametag on him or her.

- c. Explain that each person will now introduce the person whose nametag they drew from the box. The introduction should include the person's name, their town, and something new about them. The facilitator begins.

### ***Sample Introduction***

"I would like to reintroduce you all to José from Big River. Something new I learned about José is that his favorite food is fried bananas."

- d. Then "José" introduces the person whose nametag he selected, and the introductions continue until everyone has been introduced.

## Step 3. Review of Community Work

- a. Tell the participants that you would like to start out with a brief review of their accomplishments so far in the training and in their communities. Tell them that you would like five participants to volunteer to outline some of these accomplishments. (If Volunteers are not forthcoming, provide some prompts, e.g., how did the plans you made at the close of Part One of the training work out? Did you find that you were able to apply what you had learned?)
- b. Tell participants that you realize they have put a lot of effort into meeting their goals, but problems and obstacles have probably presented themselves as well, affecting their ability to complete their work. Tell them that the activities scheduled for the following day will allow them to learn from one another in both their successes and their challenges in their attempts to promote disaster preparedness in communities. Reveal and discuss an example on the flip chart.

***Example of Barrier and Lesson Learned***

- Participant planned community activity: a session with all the primary school teachers.
- Barrier: school year just started and the teachers were busy with other activities.
- Lesson: it is important to appropriately time work desired with schools.
- Recommendations:

- c. Display the Follow Up Plans on the prepared flip charts completed by each group at the end of the initial workshop, and distribute copies of the *Achievements, Activities, and Obstacles* worksheet, the *Examples from Different Communities* handout and flip chart paper on which participants can write. Based on what they had planned in the Follow-Up Plans from the last workshop, ask each community group to use the worksheet to describe what they have done since the last workshop, and compare it to what had been described in their Follow-Up Plans.
- d. After participants have completed their handouts, ask them to copy that information on the flip chart. Ask the participants to give you the handout when they are finished and bring the completed flip chart sheets back with them in the morning. As the participants fill out their worksheets, make yourself available to answer any questions.

*Handout*

*Achievements, Activities, and Obstacles Worksheet*

\_\_\_\_\_  
(Community)

\_\_\_\_\_  
(Represented by)

Achievements and Activities:

Obstacles:

Lessons Learned:

*Handout*  
*Page 1 of 3*

## *Sample Worksheets from Different Communities*

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***Nueva Armenia, Francisco Morazán, Honduras***  
(Community)

**Achievements and Activities**

1. We met with the Mayor and asked if the town had an Emergency Action Plan.
2. We got the copy of the plan, with the list of members of the municipal Emergency Committee.
3. We went to the village of Barajana to observe the damage done there by Hurricane Mitch.
4. We went to the Barajana water source for the new water system.
5. We completed risk maps of Barajana and of the town of Nueva Armenia.

**Obstacles**

1. Transportation to the villages.
2. The Mayor is only in town one day a week.

**Lessons Learned**

1. We made new friends and colleagues, and got to know the town better.
  2. We found out the needs of the villages.
  3. We met all the members of the Emergency Committee.
  4. We got to know the displaced people of Barajana.
- 

***El Carbón, Olancho***  
(Community)

**Achievements and Activities**

1. We met with the Mayor regarding water systems.
2. We met with the community leaders (e.g., women's group, community council, tribal council) to form the Emergency Committee.
3. We completed the community map and the risk map.

**Obstacles**

Reluctance of community members to join the Emergency Committee; only a partial committee exists, and there seems to be little interest in joining on the part of many others.

**Lessons Learned**

1. We need to ensure that a wide range of community members are sought out and given information so that they feel like they are a part of the process and can make educated decisions about it.
2. We will need support from other institutions.



*Handout*  
*Page 2 of 3*

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***Soledad, El Paraíso***

(Community)

**Achievements and Activities**

The Mayor held a meeting with representatives of all 29 villages to report on workshop and need for village-level Community Emergency Plans.

**Obstacles**

1. Incomplete attendance.
2. Many of the communities are isolated.
3. It will be a challenge for every village to organize their Emergency Committees.

**Lessons Learned**

1. Each village is responsible for being prepared for disasters.
  2. When disaster strikes, people can only depend on themselves.
- 

***Monjarás, Marcovia, Choluteca***

(Community)

**Achievements and Activities**

1. Met with the Mayor.
2. Met with the Emergency Committee.
3. Planned workshop for the Emergency Committee members.

**Obstacles**

1. Low turnout at the Emergency Committee meeting due to work commitments.
2. The risk map still is not complete.

**Lessons Learned**

We sparked interest in the Emergency Committee members because they requested the workshop, which we will hold in the evening so that the members can attend after work.



## Session 2:

# Review of Basic Concepts

### Overview

The purpose of this exercise is to review the activities that should occur in each community to prepare for the possibility of a hazard.

### Objectives

By the end of the session, participants will have:

1. Improved their understanding of key concepts introduced during the initial workshop.
2. Identified different activities that can be included in Community Emergency Action Plans.

### Time

1 hour

### Materials

Handouts

- “Bingo” cards

Trainer List: Items for “Bingo”

### Preparation

The trainer should identify in advance whether an equivalent of a Community Emergency Committee (CEC) exists (in the host country), and, if it does, what committees are represented on it. Then, the trainer needs to revise the bingo game accordingly. Additionally, it is best to decide the order in which clues are to be revealed in the game to present the largest number of clues possible so as to provide enough clues to complete the game without stretching it out unnecessarily.

### Delivery

#### Step 1. Introduction

Introduce this session by telling the participants this activity will review the functions of different committees that can form a CEC. The main objective of this activity is to help them recall activities for the BEFORE, DURING, and AFTER phases of emergencies or disasters that might occur in their communities, although the emphasis here is on BEFORE. Tell participants that some communities might not have a CEC. If they do, the CEC would be made up of some but not all of the committees that exist in most communities: education, health, agriculture, rescue and evacuation, logistics, and security. The game we will play is based on the system here [specific country].

**Step 2. Game**

Introduce the game, Disaster Bingo.

- a. Provide each community group with a Bingo card.
- b. Go over the card with the participants and point out the five columns on the card, one for each of the commissions that make up the Emergency Committee.
- c. Tell the participants:
  - The Bingo activities and clues will be read aloud.
  - The co-facilitator will write each activity and clue on the board for reference.
  - Each activity has a number.
  - If the activity and clue correspond to a Bingo card, the person holding that card should write the number of the activity and clue in the corresponding square on their card.
  - Not all Bingo cards are the same. Participants need to pay attention to their cards.
  - Some clues may apply to more than one committee, and may apply to more than one phase of a disaster (BEFORE, DURING, and AFTER).
- d. Give an example using a flip chart.

***Bingo Clue Example*****Activity 1: Provide First Aid****Clues**

- a. Which commission is in charge of providing first aid? (*Rescue and Evacuation Committee*)
- b. When is first aid given? (*DURING or AFTER the emergency*)
- c. Would it be possible for first aid to be a job for one of the other commissions as well? (*Health*)

Participants could mark the number 1 on their card in one of four squares:

1. Rescue and Evacuation, DURING.
2. Rescue and Evacuation, AFTER.
3. Health, DURING.
4. Health, AFTER.

- e. Ask if there are any questions and tell the participants that it is okay if questions come up during the game. Discussion of activities is good, as they will all learn. Tell them that the first group to fill up their card wins. Throughout the game, the trainer should encourage the participants to register differences of opinion and talk about the phases of the Disaster Cycle as well as appropriate activities for the different commissions so that lively discussions ensue. Each participant should be given a prize by the end of the game, regardless of whether they have “won.”

- f. The facilitator should read the activities and clues, one by one, slowly. The co-facilitator should write them on the flip chart, or reveal them one by one from a previously prepared flip chart as they are read.
- g. Continue playing until there is a winner. When the first team calls out BINGO, the facilitator should ask them to come up front and read their results. If an answer is incorrect, the facilitator should ask the group if anyone has a different answer.

**Step 3. Summary**

Ask participants what new things they have learned during the session. Did they like the game format?



*Trainer List**Page 1 of 2**Items for Disaster Bingo*

#	Activity	Answers	
1	Provide first aid	R & E R & E Health Health	During After During After
2	Participate in Independence Day Parade carrying banners about disaster prevention	Education	Before
3	Distribute water to shelters	Logistics	During
4	Conduct vaccination campaigns	Health Health Health	Before During After
5	Promote anti-litter and clean-up campaigns	Health Health Education Education	Before After Before After
6	Inventory evacuation resources	R & E	Before
7	Educate schoolchildren's parent's association regarding actions to take before, during and after a disaster	Education	Before
8	Epidemiological surveillance	Health	During
9	Sanitary control of food and meals in shelters	Health	During
10	Give talks to schoolchildren about family and school emergency plans	Education	Before
11	Coordinate with other commissions to ensure basic hygiene standards are met in the shelters	Health	During
12	Promote and implement latrine construction projects	Health Health	Before After
13	Stock first aid kits	Health Health	Before After
14	Provide trained security staff to maintain safety and order in the shelters	Security	During
15	Continue guarding donated foods and other relief materials	Security	After
16	Rehabilitate educational facilities affected by the disaster/emergency	Education	After
17	Provide security to the search and rescue teams	Security	During
18	Promote school first aid kit projects	Health	Before
19	Inform community members about the steps to take during an emergency or disaster situation	Education	Before
20	Search for missing persons	R & E	During

*Trainer List**Page 2 of 2*

21	Educate and raise consciousness regarding hazards	Education	Before
22	Train members of this commission in first aid, in coordination with local Red Cross	R & E	Before
23	Devise plan for maintaining communication with outlying villages during emergency situations	Security	Before
24	Identify emergency evacuation routes from the community and vulnerable sites	R & E	Before
25	Maintain contact and strengthen relationship with police while planning emergency responses	Security	Before
26	Identify centers for storage and distribution of relief aid	Logistics	Before
27	Inventory security resources	Security	Before
28	Provide medical attention to sick and injured people	Health Health	During After
29	Distribute medicine to emergency shelters	Logistics	During
30	Evacuate people from homes in vulnerable areas	R & E	During
31	Maintain contact with the Red Cross to take advantage of training and workshops offered	R & E	Before
32	Inventory all available means of transportation	Logistics	Before
33	Receive and distribute aid which arrives after the emergency	Logistics	After
34	Provide guards and security to affected areas	Security	During
35	Plan and implement disaster simulations	Education	Before
36	Train people how to purify water	Health	Before
37	Conduct a census of the affected population	Education	After
38	Select areas and buildings to be used as shelters	Logistics	Before
39	Maintain law and order	Security	After
40	Rehabilitate health centers	Health	After
41	Update population census of city and outlying villages	Education	Before
42	Design a plan for BEFORE, DURING and AFTER emergencies and disasters	R & E Health Security Logistics Education	Before Before Before Before Before
43	Maintain records of those physically affected	Health	During
44	Transport displaced people to their new homes	Logistics	After
45	Complete report of activities carried out during an emergency or disaster	R & E Health Security Logistics Education	Before Before Before Before Before

Key: R &amp; E = rescue and evacuation.

BINGO CARDS

EDUCATION COMMISSION	HEALTH COMMISSION	RESCUE AND EVACUATION COMMISSION	SECURITY COMMISSION	LOGISTICS COMMISSION
BEFORE	BEFORE	DURING	BEFORE	BEFORE
DURING	DURING	FREE  FREE  FREE	DURING	DURING
AFTER	AFTER	AFTER	AFTER	AFTER

## Session 3:

# Achievements, Activities, and Obstacles

### Overview

This session provides an opportunity for each participant to consider the work that they have done in their communities up to this point, expose them to new ways of looking at issues, and revise their thinking, as needed.

### Objectives

By the end of the session, participants will have:

1. Identified obstacles encountered during follow-up work.
2. Identified strategies for overcoming the obstacles.
3. Reviewed and enhanced their thinking about how to best carry out DPM activities in their communities.

### Time

1 hour, 45 minutes

### Materials

*Follow-Up Plans* and *Achievements, Activities, and Obstacles Worksheets* from each community  
Flip chart, markers, tape

### Preparation

Before this session, facilitators should carefully review the *Achievements, Activities, and Obstacles Worksheets* along with the *Follow-Up Plans* from the communities. The work groups in Step 1 should be identified based on the information from the first night's work. The trainer should look for combinations of participants that will foster learning from one another. For example, two groups that have encountered a similar obstacle can share how they responded to it. If one group seems disheartened, look for a group that will encourage and motivate them.

### Delivery

#### Step 1. Community Follow-Up Work

Introduce the session by commenting that some communities will have accomplished different things. Let the participants know that this time gives them a chance to discuss different aspects of working in communities so that they can get various perspectives. Break up the larger group into five to seven smaller groups made up of Volunteers and Counterparts from their communities.

### Step 2. Group Work

Instruct the participants to carry out the following tasks and summarize the information on a flip chart:

- a. Each person will share the follow–up activities carried out in their community between the two workshops, emphasizing their achievements.
- b. Each person will share the obstacles they encountered in working toward their goals.
- c. The group will discuss strategies for overcoming or avoiding such obstacles.
- d. Each person will share the lessons learned during the follow–up period.

### Step 3. Dramatization

- a. After sharing information and discussion, ask each group to plan a dramatization, to last no longer than five minutes, representing what they discussed and shared. Give the groups about 10 minutes to plan. While the participants are planning, post the flip chart copies of each community's Achievements, Activities, and Obstacles around the meeting area.
- b. Give each group five minutes to give their presentations. After each presentation, ask the rest of the group:
  - What were the different activities and achievements we saw?
  - What were the obstacles that these people encountered?
  - How did they overcome these obstacles? (Be sure to write down the corrective strategy on the appropriate flip chart.)
  - What were the most important lessons learned?
- c. Congratulate the groups for their presentations and ask:
  - What did you learn from this activity?
  - Did the activity give you any new ideas of the work that is being done in different communities? If so, what?
  - Do you have any recommendations for this kind of activity in future workshops?

### Step 4. Closure

Close this activity by asking the participants to take the next 15 minutes to look at the sheets posted around the room. Ask them to record in their notebooks any ideas that they think might work in their community. Ask them to clarify any questions they have with their colleagues during the break.



## Session 4:

# Community Activities

### Overview

Past sessions provided an opportunity for participants to explore their accomplishments, the barriers that exist, and new ways of thinking about situations. This session gives participants an opportunity to focus, realistically and concretely, on what they can do when they return to their sites to continue their DPM work with and within their communities. Information presented in Appendix 3: *Appropriate Roles for Peace Corps Volunteers, by Type of Disaster*, is a good resource.

### Objectives

By the end of the session, the participants will:

1. Develop a list of activities that can be implemented at the community level to promote community disaster preparedness.
2. Identify techniques for motivating community members in DPM work.

### Time

2 hours

### Materials

Handout

- *Instructions for Small Group Tasks*

Flip chart and markers

### Preparation

The small group tasks in this session should be appropriate to the country, region, and communities of workshop participants. The trainer should adapt the tasks outlined in the exercises or come up with different ones more appropriate for the group, as necessary.

### Delivery

#### Step 1. Introduction

These first two steps should take about an hour. Introduce the session by noting that now that they have looked at the work they have already done in their communities, it is time now to look toward the future. Point out the responsibility that each participant has in continuing to motivate the members of their communities in DPM. Stress that the more ideas they are able to take back with them from this workshop, the more options they will have, and the more motivated they will be to keep on working. Tell them you recognize that there are obstacles to their work in DPM, but there are also many opportunities for them to make a difference.

### Step 2. Small Group Exercise

Split the larger group into five or six small groups. The trainer should try to place a primary school teacher in Group #1, and a high school teacher in Group #4, if possible. Tell each group that they will be getting a task. Tell participants that they will have some time to discuss their task, and decide on a fun and interesting way to present it to the rest of the group. Tell them that presentations should be no longer than five minutes. Distribute the instruction sheet to each group.

### Step 3. Presentations

- a. Have the groups make their presentations. After each one, analyze what was presented and ask for suggestions from the group.
- b. Distribute *Sample Community Activities from Honduras* handout. Suggest that the participants check off the ideas that are the most relevant to their communities and to keep the list.

### Step 4. Closure

Close the session by thanking everyone for their work, participation, and sharing. Ask them if they are getting the information they need.

*Handout*  
*Page 1 of 2*

## *Instructions for Small–Group Tasks*

### ***GROUP #1 Primary School***

When we are in primary school, we learn many things that will help us in the future. We learn to read, to write, to add and subtract, and how to get along with others. What can students learn in primary school about disasters and emergency preparedness?

**Group 1 Task:** Plan disaster preparedness activities that can be carried out in the primary schools of your communities and the surrounding villages. Be as detailed and complete as possible. In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #2 Flood Disaster Prevention Week***

In some countries, the government and other institutions have designated certain dates or weeks for educating and raising public consciousness about specific disaster issues, like hurricanes, flooding, or earthquakes. One example is “Hurricane Preparedness Week.” The purpose of these activities is to raise consciousness around the hazards people face, look for ways to be better prepared, and know how to respond in emergency situations.

**Group 2 Task:** Organize a week to raise public consciousness about flooding and its consequences. When would be the best time of year to do this? What could the week be named? What activities could be carried out? In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #3 Community Interest***

The goal of this workshop is to share the information learned here by taking it back to the community and nearby villages so that each one works on the development of an Emergency Action Plan. Between the two workshops, there has been a lot of work done to meet this challenge. How can we be certain we continue working on community DPM in the future, not only in the larger towns and municipalities, but also in the smaller villages?

**Group 3 Task:** Identify different ideas, activities, and techniques that you can use in the town and outlying villages to stimulate and maintain interest in DPM. How can more people be involved in this work? How can we transfer this information to people who do not read and write? In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #4 High School Group***

In high school, we increase our knowledge and prepare to be productive members of our communities. Today’s high school students are tomorrow’s leaders. How can we motivate high

## ***Handout***

### ***Page 2 of 2***

school students in DPM work? What can they learn about disasters and DPM? How can high school students participate in the different preparedness activities that take place?

**Group 4 Task:** Plan disaster preparedness activities that you and the students can carry out in the high school and the community. How can we motivate them to understand that part of their responsibility as tomorrow’s community leaders is DPM? In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #5 Annual Religion Event***

In many countries, specific religious holidays have civic manifestations. There may be religious ceremonies, parades, dances, street vendors and displays (fairs), and many other activities that bring the community together. How can we take advantage of the opportunities that such a fair provides to raise consciousness about DPM? How can the Emergency Committee participate in the fair?

**Group 5 Task:** Plan some non–religious DPM activities that can take place during the celebration of an annual fair. In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #6 Deforestation***

The extraordinarily heavy rainfall accompanying Hurricane Mitch brought disastrous results to most of our communities. The deforestation of the mountains, hillsides, and watersheds contributed heavily to the landslides and flooding. We know that if we do not take care of our forests and watersheds, we will be at risk for more landslides and flooding in the future, as well as drought and increasing problems in growing enough crops to feed our families. Nevertheless, we continue cutting and burning and allowing the deterioration of forests and watersheds.

**Group 6 Task:** Analyze the issues of deforestation and watershed deterioration, identifying the “why’s” of this ongoing problem. Also, identify activities that could serve to change peoples’ attitudes and actions so that the forests and watersheds are no longer in danger. In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

*Handout*  
*Page 1 of 2*

## *Sample Community Activities from Honduras*

### **Group 1: Primary School Activities**

- Give short talks to students and teachers about disasters.
- Identification of hazards and risks.
- Work with the students to develop Family Emergency Plans with their parents and family members.
- Develop community and school emergency plans.
- Train teachers regarding Family Emergency Plans.
- Plan a simulation.
- Set up school evacuation routes.
- Give first aid talks and training.
- Incorporate disaster–related themes in the required curriculum.
- Draw a risk map and display it in the school.
- Carry out mitigation projects, e.g., tree nurseries.
- Teach swimming classes.
- Design campaigns, dramatizations, parades, etc.

### **Group 2: Flood Disaster Prevention Week**

#### **Rainy Season Disaster Prevention Week**

“An Ounce of Prevention is Worth a Pound of Cure”

Sunday	Mass commemorating victims of Hurricane Mitch
Monday	Theater and sharing experiences
Tuesday	Tree nursery talk and demonstration
Wednesday	Plant tree nursery
Thursday	Community and Family Emergency Plans
Friday	Video on disasters
Saturday	Simulation involving the entire community

#### **Community Preparedness Campaign**

Date: Mid–August (just before the heaviest rain of the rainy season)

Sunday	Ceremonies commemorating the experiences of Mitch, held in the different churches in the community
Monday	Dramatization of what happened to the community during Mitch
Tuesday	Environment Day. Raise consciousness regarding hurricanes, floods, etc.
Wednesday	Field exercise identifying evacuation routes and potential shelters for displaced persons
Thursday	Reforestation Campaign
Friday	Soccer Game and Dance

*Handout*  
*Page 2 of 2*

**Group 3: Maintaining Community Interest**

- Hold meetings three times a year; serve refreshments to encourage attendance.
- Perform a test of the Community Emergency Action Plan.
- Share ongoing information in the schools.
- Conduct simulations of different disasters.
- Find different ways to convene people; do not call the meetings “meetings.”
- Prepare radio messages and radio magazines.
- Create dramatizations with disaster themes in primary schools, high schools, and the community in general.
- Conduct monthly simulations.
- Integrate groups (people of different ages).
- Involve youth.

How to involve more people

- Undertake home visits.
- Work with the women’s groups.

How to transmit the information to people who do not read and write

- Theatrical presentations
- Drawings
- Simulations
- Videos
- Oral histories

**Group 4: Using the Annual Town Fair**

- Conduct a dramatization that deals with the Family Emergency Plan.
- March with banners in the parade.
- Use cars with sound system to spread the word.
- Broadcast prevention messages over local radio stations.

**Group 5: High School Work**

- Give classes about preparedness and prevention.
- Conduct simulations.
- Make posters.
- Help with reforestation efforts.
- Present first aid course.
- Assign students to develop Family Emergency Plans.
- Draw risk maps.
- Design an evacuation plan.

## Session 5:

# Resources

### Overview

Community resources are critical in providing the support and structure needed to conduct comprehensive DPM work. This session will help participants to better understand what community resources are available to them and will increase their ability to use these resources in various situations.

### Objectives

By the end of the session, the participants will have:

1. Shared resources that they have found useful in support of community preparedness work.
2. Identified new potential resources.

### Time

30 minutes

### Materials

Handout

- *List of Resources* (such as nongovernmental organizations (NGOs), government organizations (GOs), and the private sector)

### Preparation

Before the session, the trainer should have a good understanding of the types of support that are available within and to the communities in which the participants live. The trainer needs to create the list of resources (including how to contact them) that is used in this and future sessions.

### Delivery

#### Step 1. Introduction

Tell the participants that they will spend about 15 minutes reviewing the different resources in their communities, the type of assistance these resources have provided, and the type of assistance they may be able to provide in future DPM activities. Note that these resources include governmental and nongovernmental organizations, private enterprise, and some individuals.

#### Step 2. Discussion of Resources

Begin with a discussion about mayors by asking: In what ways have your mayors or community leaders supported the activities you have carried out between workshops? As participants respond, the trainer or co-facilitator writes them on the board. Encourage the participants to take notes.

**Sample Mayoral Activities**

Mayor/	Funds and food for meetings
Community leader/	Photocopies
Chief	Space to meet in the municipal building
	Transportation
	Convened meetings

Continue asking for examples from the government (*e.g., ministers, city planning boards, heads of utility offices*), then from NGOs (*e.g., social services organizations, women's groups*) and then from the private sector (*local or international businesses*). Try to get as complete a list as possible, drawing the participants out with questions such as: How did you access the resources? How did you contact the agency?

**Step 3. Summary**

Distribute the *List of Resources*. Ask participants to look it over and add other resources they might know of.





## Session 6:

# Community Emergency Action Plan

### Overview

This session helps participants to consider and develop ideas for the Emergency Action Plans needed in their communities.

### Objectives

By the end of the session, participants will be able to:

1. Identify the essential components of a Community Emergency Action Plan.
2. Identify the steps for each community to take to complete their Emergency Action Plan.

### Time

45 minutes

### Materials

Handout

- *List of Resources* (NGOs, GOs, private sector)

Blank flip chart and markers

### Preparation

This session draws on work done in Honduras. The trainer should tailor the session to fit the emergency plan framework for the country in which the training is being given. If no such framework exists, an activity should be developed for use during the initial workshop that presents a framework that will be used in later sessions. The BEFORE, DURING, and AFTER conceptualization of disasters should be used because this concept is universally applied in disaster-related development work. However, how Emergency Committees are formed and tasks are assigned varies from country to country.

### Delivery

#### Step 1. Introduction

- a. Ask the participants if they remember the Long Road simulation and remind them they talked about the activities that the different commissions of the Emergency Committee should carry out during an emergency. They discussed the most important part of the Disaster Cycle: the BEFORE phase. Ask them to identify the time period in which the current workshop is taking place (*BEFORE*). Note that this time is when the work of preparing for and preventing future disasters should occur.
- b. When the DURING phase comes, it is too late, because everyone is busy solving all the problems caused by the disaster. Continue by noting that the BEFORE phase plans

consist of many activities. Some are short–term activities and others are long–term. Then, ask participants to identify some short–term and long–term activities and write them on a flip chart (see example below).

***Examples of Short– and Long–Term Activities***

**Short–term activities**

- Meetings
- Talks in schools
- Simulations

**Long–term activities**

- Reforestation
- Soil conservation
- Improved housing
- Relocating families living in vulnerable areas

## **Step 2. Individualized Community Emergency Action Plan**

- a. Note that you recognize that many of the participants have probably wondered what their Community Emergency Action Plan should actually consist of. Tell them that the plan needs to include at least the BEFORE, DURING and AFTER activities of each commission. It must clearly indicate how the community will respond during an emergency or disaster, the nature of the hazards and vulnerabilities being addressed, where the Emergency Operations Center is to be located, and the specific responsibilities of each commission member.
- b. Tell the group that those with completed plans should review them. Tell them that many plans in many communities remain incomplete and do not answer: who, when, how, where, and with what. Let the participants know they can help.
- c. Explain that sorting out the details of each community’s plan is the responsibility of the local emergency committee and community members. Use the following analogy to make the point about countries’ needs being different: José’s shoe would not fit everyone in the group. It would not, for example, fit María. Note that one could say that José’s shoe is the action plan for his community and Maria’s shoe is the action plan for her community. Maria’s feet are very different from José’s feet: they are smaller and narrower. If José tried to wear Maria’s shoes, and vice versa, it would be inconvenient at best, and could be painful. But, there are many similarities: shoes are shoes and shoes are useful for everyone to protect their feet.
- d. Note that it is the same with Community Emergency Action Plans. Point out that although all communities have different characteristics and needs, there are many similarities as well. Every community can benefit from having a plan that shows people how to protect themselves and outlines the actions that people should take when an emergency or disaster strikes, using the resources that the community has on hand. Tell

participants, however, that since no two communities are exactly the same, no two Community Emergency Action Plans will be exactly the same. Tell them that is why someone who does not live in their community cannot tell them exactly what should be included in their plans.

### Step 3. Sample Action Plan

Refer participants to pages 36 to 40 of their Workbooks, where they will find an example of an Action Plan. Ask them to take a few moments to read it. When they are done, note that what they saw were some general ideas that can apply to most communities. Tell them that their responsibility is to take these general ideas and add all the necessary activities and details so that the plan fits their community just like a properly fitted shoe.

### Step 4. Elements of Action Plans

- a. Take about 30 minutes to discuss the development of the Emergency Action Plan. Begin by asking who should be involved in developing it. (*All segments of the community should be involved, including all the members of the Emergency Committee.*) Tell them that their plans therefore cannot be finished here today. Note that those whose communities do not have plans should take some time to put together a draft plan.
- b. Remind them that each plan needs to indicate
  - The responsible party for the different activities.
  - The proposed means to carry out the activities.
  - Where and when things are going to happen.
  - What resources and capacities need to be used.
- c. Refer the participants to pages 41 to 50 of their Workbook for the categories. Tell them that before they begin work, the group will analyze some examples together. Write the following on the flip chart:

Education Commission BEFORE: Give watershed protection talks in schools.

Then ask: Is this complete? (*No*) What is missing? (*Who is going to give the talks, what grades will be involved, when will the talks be given, will there be any field work, what materials and supplies are necessary?*)

- d. Write on the flip chart:

Rescue and Evacuation Commission DURING: Evacuate people from vulnerable areas.

Ask: Is this complete? (*No*) What is missing? (*Which areas are vulnerable, who is in charge of evacuating each area or house, how is transportation going to be arranged, what equipment is available and where is it?*)

### Step 5. Development of or Revision of Action Plans

- a. Ask the community groups to work on their Emergency Action Plans. Ask them to
  - Note what needs to be included.

- Provide suggestions for their local Emergency Committees.
  - Provide the steps they want to take in their communities toward completing the plans.
- b. Any of the groups that have plans should analyze them, identify what is missing, and plan the steps they want to take in their communities toward completing the plans.

**Step 6. Sharing Elements of Plans**

- a. Ask if anyone wants to share some of the tasks or activities that they have included in their Community Emergency Action Plan.
- b. Ask representatives from each community to share what next step they plan to take with their plans back in their communities.
- c. Finally, ask the participants how they felt about the work they completed. Was it easy? Is it easy or difficult to identify tasks? Who should do them? Did they create a timetable? What did they learn by trying to develop the plan?
- d. Congratulate the group on the work done. Mention specifically some of the new things that the facilitators learned from the participants during this exercise. Encourage the group to continue to involve their communities in completing the plans.



## Session 7:

### Follow–Up Plan

#### Overview

This session helps participants to identify additional community–based activities that can support their DPM work and to draw up a calendar of these activities.

#### Objectives

By the end of the session, the participants will be able to:

1. Emphasize the importance of having a plan to guide them as they continue community–based DPM work.
2. Write a plan of activities that they can conduct in their communities throughout the coming year.

#### Time

1 hour, 15 minutes

#### Materials

Handouts

- *List of Resources* (NGOs, GOs, private sector) and contact information (given out previously and used as reference in this session)
- *Follow–up plan Calendar* and *Sample Follow–up Plan from Honduras*
- *Workshop Evaluation Form*
- *Post–Test*

Prepared flip chart

- Calendar Preparation Tasks

Blank flip chart and markers

#### Preparation

Trainers should familiarize themselves with the types of activities that have been conducted in the past as well as any issues affecting the cultural appropriateness of community–based activities.

Find out what type of follow–up and support the Peace Corps expects to provide. Adjust notes in Step 5.

#### Delivery

##### Step 1. Introduction

- a. Take a few minutes to introduce the session by asking, “Why are we here today? Why did we leave our homes and families to meet here again?” and listen to the responses. Note that in the first workshop, the group decided that the worst outcome of the

- workshop would be to go back to their communities and do nothing with the information they received.
- b. Note how important it will be to put their information to work. Hold a short discussion about how they feel about the work they have done so far. At the end of it, ask them if they are willing to keep on working. Ask what it means to them and what it would mean to their communities. Ask what they can do to keep on with the important work of community DPM.
  - c. After listening to their responses, note that in addition to their involvement in the development of the community Emergency Action Plan, it will be important to think of other activities that can be carried out in their communities to maintain motivation and interest. If not, a disaster may ensue from a hazard, although the information was there to cope with it.

### **Step 2. Annual Preparedness Calendars**

- a. Tell the participants that for about 30 minutes, they will be asked to think more about community work. Tell them that they will develop an annual preparedness calendar in which they can start listing their ideas.
- b. Ask for a volunteer to help with a short activity. Write the months of the year on a flip chart, starting with the current month. Then ask
  - When is the annual fair in (point to one person) your town?
  - When is the planting season?
  - When does it rain?
  - When is the harvest?
  - When does school start?

Write all these events on the calendar, noting those times of the year when people are especially busy and the best times to work on community DPM activities (i.e., the best times of the year to work on nurseries, transplant trees, give talks at the schools, carry out simulations).

### **Step 3. Community Preparedness Calendars**

- a. Tell participants that they will complete the work outlined on the flip chart in their community groups. Refer to the box below for the Calendar Preparation Task flip chart. Distribute out the *Follow-Up Plan Calendar* sheets to each person.

#### ***Calendar Preparation Tasks***

Fill out the annual planning sheet with the normal activities that happen each year.

Briefly list hazards and vulnerabilities for the respective communities.

Then, think of all the different DPM activities you can carry out with the different segments of their communities, including items from their Emergency Action Plans.

Fill out the sheets (with one copy for Peace Corps) with the activities and who is responsible for each one.

- b. Explain that they will share and discuss their work during the next session.
- c. Have them divide into groups and develop their calendar.

#### **Step 4. Discussion of Calendar**

The facilitator should ask who has their birthday in January. Then, ask each person with a January birthday to share one idea from their calendar for the month of January. Continue month by month, until each participant has contributed. Then, ask if anyone has any other items they would like to add.

#### **Step 5. Follow up and Workshop Evaluation and Post–Test**

- a. Give the participants any information about follow–up by the Peace Corps and remind them that the agency will always maintain contact with and provide support to their Volunteers, thus also providing support to those with whom they work and the projects on which they work. Tell them that community–based DPM is a Peace Corps priority and that the agency hopes to continue to support it through the Volunteers, and hopes that the Counterparts and Volunteers will work with the community and appropriate authorities and also keep PC informed of their ongoing work.
- b. Choose (or ask for) four people, two Volunteers and two Counterparts, to form a committee to plan the closing ceremony. Tell the group members to speak to the committee members if they have an idea for the ceremony. Announce the time for the closing ceremony.
- c. Distribute copies of the *Workshop Evaluation* and the *Post–Test*. Ask the participants to complete the *Evaluations* and *Post–Tests* and to return them to you. Remind them that they do not have to write their names on the evaluation forms. Tell the participants to mark a “V” for Volunteer or “C” for Counterpart next to the number on the page and remember their numbers. Let them know that their *Pos–Test* results will be available to them, and when.
- d. Congratulate everyone on their work.

Follow-Up Plan Calendar

Community: \_\_\_\_\_

Representatives: \_\_\_\_\_

Year: \_\_\_\_\_

January	February	March	April	May	June
Normal Activities	Normal Activities	Normal Activities	Normal Activities	Normal Activities	Normal Activities
Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)
Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities
Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)





Community: \_\_\_\_\_

Representatives: \_\_\_\_\_

Year: \_\_\_\_\_

<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>
<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>
<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>
<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>



## Handout

## Sample Follow-Up Plan from Honduras

**Community:** Monjarás, Marcovia, Choluteca

**Representatives:** Virginia and Marc

January	February	March	April	May	June
Normal Activities	Normal Activities	Normal Activities	Normal Activities	Normal Activities	Normal Activities
Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)
Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities Implement training workshop for 15 members of the Emergency Committee	Prevention and Mitigation Activities 1. Talks at Julia Zalaya Institutes  2. Meet with different Commissions	Prevention and Mitigation Activities Carry out First Annual Hurricane and Flood Awareness Week	Prevention and Mitigation Activities 1. Convene Emergency Committee  2. Plan and Implement Disaster Simulation
Responsible Person(s)	Responsible Person(s)	Responsible Person(s) Virginia and Marc	Responsible Person(s) Virginia and Marc	Responsible Person(s) Emergency Committee	Responsible Person(s) 1. Marc 2. Virginia



*Handout*  
*Page 1 of 3*

## *In–Service Training DPM Workshop Evaluation*

The purpose of the evaluation is to help us improve the disaster management training program. Your answers are confidential, so please answer the questions with candor. Use the back of this questionnaire if additional space is needed to write responses. Thank you for your help.

### **Training Content**

1. Do you think that you have a better understanding of the importance of disaster preparation and mitigation? \_\_\_ Yes \_\_\_ No
2. Do you have a better appreciation for the role that Volunteers can play in helping a community to prepare for and mitigate natural disasters? \_\_\_ Yes \_\_\_ No
3. Please rate the quality of the information of the following sessions:

Part One, Session 1: **Introduction to Disaster Management**

Excellent      Good      Average      Below Average      Poor

Part One, Session 2: **Overview of Disaster Preparation and Mitigation**

Excellent      Good      Average      Below Average      Poor

Part One, Session 3: **Volunteer Safety and Security**

Excellent      Good      Average      Below Average      Poor

Part Two, Session 1: **Review of Basic Disaster Terminology And Historical Events**

Excellent      Good      Average      Below Average      Poor

Part Two, Session 2: **Preparation for Community and Mapping Natural Disaster Vulnerability Analysis**

Excellent      Good      Average      Below Average      Poor

Part Two, Session 3: **Preparation for Community Field Research**

Excellent      Good      Average      Below Average      Poor

4. The primary objectives of the full IST were to:
  - a. Help Volunteers review issues and information presented during the PST disaster management training module or incorporate new background information on disaster management if they did not participate in a disaster management PST

*Handout*  
*Page 2 of 3*

- b. Increase participants' knowledge about working with and through community involvement
- c. Provide participants with a more in-depth understanding of community disaster-related activities
- d. Give participants the skills they need to assist in disaster management planning within their communities.

Were the main objectives of the training met? \_\_\_\_ Yes \_\_\_\_ No

If you believe that one or more of the objectives were NOT met, please identify which one(s) and explain why.

- a. \_\_\_\_\_  
\_\_\_\_\_
- b. \_\_\_\_\_  
\_\_\_\_\_
- c. \_\_\_\_\_  
\_\_\_\_\_
- d. \_\_\_\_\_  
\_\_\_\_\_

## Organization of the Training

How would you rate:

- 1. The overall length of the training?  
Just right      Too long      Too short
- 2. The overall training format?  
Just enough variety      Not varied enough      Disjointed
- 3. The overall quality of handouts and materials?  
Excellent      Good      Average      Below Average      Poor
- 4. The training site?  
Very comfortable      Somewhat comfortable      Uncomfortable

Please comment: temperature, amenities, size, location, etc.

*Handout*  
*Page 3 of 3*

## Training Delivery

How would you rate the trainer's:

Knowledge of the subject matter?

Part One:	Excellent	Good	Average	Below Average	Poor
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Part Two:	Excellent	Good	Average	Below Average	Poor
-----------	-----------	------	---------	---------------	------

Manner of delivery?

Part One:	Excellent	Good	Average	Below Average	Poor
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Part Two:	Excellent	Good	Average	Below Average	Poor
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## General Comments

1. Please comment on how you expect to use the information and techniques that you have gained during this training.
2. Please provide any additional information that you believe would improve the training.
3. Please identify any topics on which you would like additional information. Refer to the objectives and the session titles above as guides.



*Handout*  
*Post-Test*

**Participant # \_\_\_\_\_**

1. How do you think Peace Corps Volunteers can help communities better prepare for and minimize the impact of (a hurricane, earthquake, drought, etc. Choice/s should be country-dependent)?
  
2. Define the following terms:
  - a. Hazard –
  - b. Disaster –
  - c. Emergency –
  - d. Vulnerability –
  
3. Typically, there are actions that one can take BEFORE, DURING, and AFTER a natural disaster. Please identify some activities in each category:  
  
Before:     a)  
              b)  
  
During:     a)  
              b)  
  
After:       a)  
              b)
  
4. What is a community risk analysis?
  
5. Identify some activities that might be included in a community risk analysis in \_\_\_\_\_ (name of country).Handout

## Session 8:

# Closing Ceremony

### Overview

The closing ceremony allows the participants to put closure on the training and congratulate themselves for a job well done.

### Objectives

By the end of the session, participants will have:

1. A heightened sense of their achievement and purpose
2. A sense of team identity

### Time

30 minutes

### Materials

Diplomas

Letters of Attendance

### Preparation

While the closing ceremony committee is in charge of planning this final event, it is important to remember to include the Diplomas and Letters of Attendance as a part of the event.

### Delivery

#### Step 1.

Have the closing ceremony committee introduce their closing plan.

#### Step 2.

Conduct any special activity the committee has prepared.

#### Step 3.

Introduce the person providing the final remarks (this may be the facilitator). *(This is the last opportunity for facilitators to motivate the group, and some carefully chosen words can make a lasting impression and reinforce many important concepts. An example is provided below).*

“I would like to take just a few moments to share some of my thoughts with you. First of all, it has been a great honor for me to have the opportunity to meet and get to know each one of you, to work with you, and to learn from you. I feel that I have new friends and colleagues, and I feel very fortunate for that.

“You are community leaders, and have a great responsibility. All of our lives changed as soon as we became survivors of the terrible tragedy of Hurricane Mitch. I

know that each of you, as well as myself, feel a great responsibility to do everything we possibly can so that our communities never have to suffer again the way they suffered from the devastating effects of Hurricane Mitch.

“In the short term, we need to motivate our Mayors and other leaders, to teach, to raise consciousness, and try as hard as we can to reach all the people in our communities, because the prevention of future disasters is a job for everyone. Chances are that another event of the magnitude of Mitch will not happen again during our lifetimes. But our responsibility is to do all we can so that our grandchildren, and the grandchildren of our grandchildren never have to experience any similar misfortune. We must work today so that future generations will live in a country full of tree-covered mountains, and so that in the future the rain will not be the source of death and destruction, but rather of sufficient and abundant water for all. I know that we can do it. Let us get to work, and once again, thank you for your commitment and good will.”





## *Appendix 1:*

### *Common Psychosocial Responses to Disasters*

Many issues come to the surface during an emergency. They are both physical and psychosocial. Below are some key psychological and health issues of which Peace Corps Volunteers should be aware in the event of a disaster. Knowing and understanding possible reactions will help Volunteers deal with these issues and keep them safe.

### *Generalized Psychosocial Response in Disasters*

Predicting how people will respond in a disaster is difficult. Again, however, certain generalizations appear to be true:

- Individuals who were unstable before the disaster will probably suffer more as it proceeds.
- People whose families are separated typically recuperate more slowly.
- Professionals who lose status and the ability to practice their trade or skill as a result of becoming refugees may suffer a lack of self-confidence that may never be regained.
- Children probably suffer most initially in almost every way, but are frequently more resilient and adapt more quickly than older persons.
- Often, those who appear to cope most easily in the short term suffer reactions later that may be quite severe.
- Marginalized individuals (the poor, female-headed households, the disabled) are likely to suffer more than those with stronger social ties.

A host of physiological, cognitive, psychological and emotional, and behavioral reactions are possible. They are often linked with the phases of an emergency. During the alarm and mobilization phases, the person might react to the alarm in several ways: shock, anxiety, disorientation, or difficulty communicating. There is an attempt to adjust to the information about the event. During the action phase, there may be various reactive symptoms. These might include a variety of physiological, cognitive, and psychological symptoms. Some typical "coping mechanisms" are listed and briefly discussed below:

- Depression is the most general reaction noted after almost all disasters. The extent of depression will depend upon some of the issues noted above, and also the extent of the disaster itself.
- Anxiety is common during initial, as well as creeping, disasters and following almost every catastrophe. During slow-onset disasters, people quite naturally worry and become anxious about what will happen. After the disaster strikes, there are difficult and important decisions to make about how to return their lives to normal, which also may cause anxiety. Anxiety and depression can be accompanied by sleep disorders and are often linked. Anxiety can also be accompanied by other physiological changes, including increased heartbeat, respiration, and blood pressure; nausea and diarrhea; headaches; dizziness; and other symptoms.

- A short-term feeling of disorientation accompanied by an initial inability to act followed by overactivity is common after sudden-onset disasters. The follow-on activity can manifest itself as heroic volunteerism or chaos, depending upon how well activities are led and organized.
- A change in psychological and social patterns has been particularly noted in traditional cultures' responses to slow-onset disasters. There is sometimes an attempt to modify local beliefs to explain a disaster or to move to other locations to avoid one.
- A reduction of individuals' "circles of concern" has been noted with slow-onset disasters. The concern formerly extended to the community or extended family may decrease and come to include only the nuclear family.
- Where large numbers of refugees or internally displaced persons are the result of a disaster, survivors often suffer guilt for having survived while loved ones have died, for having left too soon or too late, or for any other decisions that possibly could have affected the outcome of others. A related, following reaction may be a sense of invulnerability that, coupled with guilt, may cause survivors to take undue risks, and/or increase aggressiveness toward others.
- Panic and hysteria can arise during mass accidents but seem less common after natural disasters.
- Alcoholism, drug abuse, and increased violence are sometimes problems.

## *The Response of Peace Corps Volunteers*

In the event of a disaster, Volunteers may be withdrawn from their communities for safety reasons immediately before or after an event. This can raise important issues for the Volunteers and their communities. The duties and responses of Peace Corps staff and Volunteers in any given emergency are identified in the Evacuation Support Guide and each post's EAP.

If they experience the disaster simultaneously, Volunteers may suffer the same reactions to it as the local people. They may be stunned and feel guilty for having survived because of their higher economic status or better housing, for example. This may lead them to overreact during relief efforts by working themselves to exhaustion or engaging in counterproductive activity for the sake of keeping themselves occupied. They may also attempt to secure control of the situation from local authorities in the belief that they can organize relief work better or conduct themselves more impartially. On the other hand, Volunteers may be terrified if the local community looks to them for leadership in a situation where they lack the skills, experience, or authority to help in a meaningful way, and the Volunteers' ability to cope with these new demands may be impaired.

Volunteers who are not aware of the possibility of increased aggressiveness on the part of beneficiaries following disasters may also respond to this behavior inappropriately by matching that aggression or by imposing unnecessarily restrictive rules or punitive measures on Counterparts or subordinates.

Volunteers may feel alienated if the local community tries to take advantage of them, since neighbors and colleagues may appear unusually friendly but actually harbor underlying motives of desire for material assistance, transport, employment, and so on. The distribution of limited goods and services in developing nations is often based on family and friendship ties rather than

on a more objective assessment of need, and Volunteers may have difficulty understanding this and explaining Western standards of equity to associates and neighbors.

It is important for Volunteers to recognize the possible ways in which they might react to a disaster. This will help them and the Peace Corps plan for and address needs if the situation demands.

## **Resources**



National Institutes of Health. "Disaster Work and Mental Health: Prevention and Control of Stress Among Workers." Bethesda, MD: NIH, 1983.

Peace Corps. "Psychosocial Issues in Disasters." Washington, DC: Peace Corps, 1983.

## *Appendix 2:*

# *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*

## *Earthquakes*

Earthquakes are one of the most dangerous and destructive forms of natural hazards. They strike with sudden impact and little warning. They may occur at any time of day or on any day of the year. Earthquakes can devastate an entire city or a region of hundreds of square kilometers. They can reduce buildings to piles of rubble in seconds, killing and injuring their inhabitants. This information sheet provides some basic information on the primary and secondary effects of earthquakes as well as an overview of preparedness and mitigation actions.

### **Primary Effects of Earthquakes**

The onset of a large earthquake is initially signaled by a deep rumbling, followed shortly by a series of violent motions in the ground. Often the ground fissures, or cracks, and there can be large permanent displacements horizontally—sometimes as much as six to nine miles (10 to 15 kilometers). As the vibrations and waves continue to move through the earth, structures on the earth's surface are set in motion. Each type of structure responds differently, depending on the type of materials of which it is made. When the seismic waves strike, the earth begins to move backward and forward along the line of contact (shear line). The lower part of the building on the earth's surface moves immediately with the earth. The upper portion, however, initially remains at rest; thus the building is stretched out of shape. Gradually, the upper portion tries to catch up with the bottom. As it does, the earth moves in the other direction causing a “whiplash” effect, speeding up the top of the building, and creating a vibration known as resonance. The resonance can cause structural failure in itself; adjacent buildings having different response characteristics (caused by different building materials) can vibrate out of phase and pound each other. The walls of buildings without adequate lateral bracing frequently fall outward, allowing the upper floors or roof to collapse into the inside of the structure. Another primary effect, known as liquefaction, can occur when loose sandy soils with a high moisture content separate when shaken by an earthquake. The water then moves upward, resulting in a surface with a quicksand-like consistency. Heavy structures resting on these soils will slowly sink into the ground.

### **Secondary Effects of Earthquakes**

Often as destructive as the earthquake itself are the secondary effects such as landslides, fires, tsunamis, and floods. Landslides are especially damaging and often account for the majority of lives lost. Tsunamis are generally of less concern, except in the Pacific Basin. A tsunami is a large sea wave caused by an earthquake abruptly lifting the ocean floor. The waves move outward at high velocity and can cross thousands of miles before they run up on shore. At sea, their low wave height gives little evidence of their existence. As they approach land, however, their velocity decreases and their height increases. In this way, a five-foot crest moving at 370 miles per hour (mph) (600 kilometers per hour [kph]) in the open ocean becomes a devastating 3,200-foot (50-kilometer) wave moving at 31 mph (50 kph) when it reaches shore. Fire is another

concern immediately following an earthquake because of severed electrical lines and broken gas mains. In recent years, devices have been installed in most of the world's major cities that shut down gas and electric supply lines automatically if an earthquake strikes. Yet the threat still exists in many smaller cities and the squatter settlements of larger cities where open fires are used for cooking, heating and lighting.

## **Lessons Learned**

It is important to recognize that different cultures explain the existence and appearance of earthquakes in various ways, including the wrath of a god, weather patterns, and modern interference with nature. These cultural elements should be taken into account when providing preparedness or mitigation assistance; however, certain lessons have been learned and should be applied:

- When survivors assume that nothing can be done to avoid the impact of an earthquake, they often want to build structures in the same manner as before.
- Because rebuilding usually takes place in the first months following an earthquake, technical assistance and improvements need to take place soon after the earthquake.
- Many survivors use building materials from their old home because they see these houses as providing greater shelter than tents and allowing them to keep something they had before the earthquake.
- Earthquakes and the threat of continuing tremors rarely are sufficient reason to evacuate an affected area.
- Health threats in the aftermath are exaggerated. Relocation into camps poses a much greater threat in the outbreak and spread of communicable diseases.
- Reconstruction often takes longer than estimated, and a full recovery may take years.
- Outbreaks of cholera do not follow earthquakes. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of earthquakes.
- Extensive food aid is rarely required after an earthquake.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Earthquakes do not incite panic, hysteria, or rioting.

## **Pre–Disaster Activities**

A great deal can be done to prevent earthquakes from becoming disasters. First, it is important that various members of the public come to understand earthquakes. Three levels of commitment are needed:



1. Policymakers need to create strategic development and investment programs;
2. Communication programs need to reach the general public to inform and educate; and
3. Technical assistance must be available for responding to before–and–after needs.

Attention to disaster assistance has become a priority of many government policy and development officials today. One activity that is necessary in advance of any disaster and which is addressed in this training, is mapping the possible risks and response of the community. Mapping should consider the conditions that could contribute to a particularly risky environment in the face of a disaster, such as structures and power lines. Specific actions necessary to reduce earthquake damage include:

- Developing low–cost construction techniques that are seismic–resistant.
- Introducing improved construction techniques to the building industry and to the public.
- Determining which sites are safe for construction through analysis of the location (e.g., not downstream from dams and snowpacks), soil type, and geologic structure.
- Instituting incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety.
- Instituting incentives to encourage future development on safer sites and safer methods of construction through land use controls (zoning); building codes and standards and means of enforcing them; favorable taxation, loans, or subsidies to qualifying building methods and sites; and land development incentives.
- Reducing possible damage from secondary effects by identifying and restricting construction on potential landslide sites; installing devices that will keep breaks in electrical lines and gas mains from producing fires; and verifying the capability of dams to resist earthquake forces and upgrading them as necessary.

## **Preparedness Activities**

Earthquake preparedness activities include those that focus on education and planning:

- Training teams for search and rescue operations
- Training teams for disaster assessment
- Identifying safe sites where people living in areas threatened by landslides in secondary tremors could be relocated
- Training adequate personnel in trauma care
- Maintaining stocks of trauma–related medical supplies
- Reviewing and upgrading the structural soundness of facilities that are essential for the operation of disaster response, such as hospitals, fire stations, government buildings, communications installations
- Preparing plans and equipment for alternative water supply as necessary
- Preparing plans for clearing streets on a priority basis to provide emergency access
- Preparing emergency communication systems as well as messages to the public regarding matters of health, safety, and security
- Training teams to determine if buildings are safe for reoccupancy

## Post-Disaster Activities

A number of lessons for post-disaster activities have been learned from experience. The response should include activities outlined in the preparedness stage, but the initial emphasis during the post-disaster time period should be on search and rescue of victims. There should be an attempt to account for all members of the affected population and to provide emergency medical assistance. Additionally, it will be important to conduct a damage and needs assessment and to provide relief to survivors. Responses in this last area can involve:

- Financial assistance
- Reopening roads
- Reestablishing communications to quickly get information to the public about what they should do and where they can go for services
- Making contact with remote areas
- Conducting disaster assessment
- Providing building materials for reconstruction

Most long-term recovery activities involve local and national authorities. National authorities will also determine the need for international assistance. These activities include:

- Repair and reconstruction of “lifelines”—water, sewer, and electrical services and roads
- Technical, material, and financial assistance for the repair and reconstruction of residential and public buildings
- Economic programs that create jobs to help rejuvenate the economy
- Financial assistance to survivors, including lines of credit and assistance to businesses to enable them to participate in recovery efforts

## References for Earthquakes

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

United Nations Disaster Relief Office. *Shelter After Disaster*. New York: UN, 1982.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## Cyclones

Cyclones are among the most awesome events that nature can produce and pose a major threat to lives and property in many parts of the world. Every year, these sudden, unpredictable, violent storms with high winds cause widespread devastation to coastlines and islands in their erratic paths. A cyclone's destructive work is done by the high wind, flood-producing rains, and associated storm surges. A cyclone is a tropical storm in which the winds reach speeds of more than 74 mph (120 kph) and blow in a large spiral around a relatively calm center or "eye." Simply stated, cyclones are giant whirlwinds in which the air moves in a large, tightening spiral around a center of extreme low pressure, reaching maximum velocity in a circular band extending outward 20 to 30 miles (30 to 50 kilometers) from the edge of the eye of the cyclone.

Near the center, winds may gust to more than 200 mph (320 kph), and the entire storm dominates the ocean surface and lower atmosphere over tens of thousands of square miles. Devastating floods from extremely heavy rainfall often accompany tropical cyclones. Flash floods of great volume and short duration may result from the cyclone's rain, especially in hilly or mountainous terrain. Runoff from the intense rainfall accumulates quickly in restricted valleys and flows rapidly downstream, often as a large wave. Flood flows frequently contain large concentrations of sediment and debris. Storm surges, rapid rises of the ocean level as the cyclone approaches which can bring a wall of water as high as 65 feet (20 meters), cause the most devastating type of cyclone-related flooding. Tidal floods can also be caused by the combination of waves generated by cyclone winds and flood runoff resulting from the heavy rains that accompany cyclones. These floods may extend over large distances along a coastline, but their duration is usually short because of tide fluctuations.

## Primary Effects of Cyclones

Disasters from cyclones occur when the human settlements are vulnerable. Vulnerability is determined by the exposure to the storms, the degree to which the houses and other structures can be damaged, and the likelihood that secondary effects could occur. Urban and rural communities in unprotected, low-lying coastal areas or on river floodplains exposed to cyclones are considered vulnerable. Poverty and underdevelopment are key source factors in determining vulnerability, given the structural weakness of the homes and the higher probability of homes in exposed locations.

Most loss of life from cyclones is due to drowning, either from the rise in sea water inundating the land or from floods resulting from the excessive rainfall. The number of deaths is significantly higher in developing countries where communications are poor, warning systems and evacuation plans are inadequate, and crowding is commonplace. Deaths and injuries also occur from structural collapse or flying objects, with devastating effects on homes and buildings, agriculture, critical facilities, and lifelines. The most dramatic impact of cyclones is the damage they cause to buildings, which are pulled apart by winds moving swiftly around and over them, lowering the pressure on the outside and creating suction on the walls and roof. Safety also is compromised by the damage to or destruction of public installations and facilities, such as water and electrical plants, hospitals, and police stations. There also may be damage to agricultural land, crops, and foodstuffs.



## Secondary Effects of Cyclones

A secondary effect of flooding due to cyclones is mudslides, which are caused by supersaturation of deforested or stripped hillsides. Significant loss of life may occur in massive mudslides resulting from the torrential rains, especially in squatter settlements located in floodplains.

## Lessons Learned

The following are lessons learned.

- Outbreaks of cholera do not follow cyclones. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of cyclones.
- Extensive food aid is rarely required after a cyclone.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Cyclones do not incite panic, hysteria, or rioting.
- Cyclone relief and reconstruction programs should be integrated with long-term development programs.
- When properly executed, reconstruction assistance can provide a strong stimulus to recovery and a base for future development work.
- Reconstruction programs should seek to reduce social and physical vulnerability to future disasters.
- Reestablishment of the local economy, income security, and agriculture are usually more important to cyclone victims than materials assistance.
- Churches, schools, and other large buildings that are often designated as cyclone shelters are usually not safe. The number of deaths attributed to destroyed or flooded shelters is alarming. Most experts agree that the best alternative is adequate warning and evacuation of threatened areas.

## Pre-Disaster Activities

Reducing the harmful effects of a cyclone requires actions on three fronts:

1. Reducing the vulnerability of physical settlements and residential structures;
2. Reducing the vulnerability of the economy; and
3. Strengthening the social structure of a community so that coping mechanisms can help absorb the impact of the disaster and promote rapid recovery.

The first step in reducing vulnerability for human settlements is to identify the high-risk areas. This is done by relating the effects of the cyclone to the terrain and to the probability that a

cyclone will occur. This activity is addressed through mapping the community. The second step is to identify those communities that are particularly susceptible to damage or destruction, particularly those of the poor. Reduction of vulnerability may also involve:

- Development of extensive public awareness programs to inform the public about the hazards and illustrate what can be done to prevent a disaster
- Land–use zoning to control development
- Construction of protective works, such as embankments, to protect from flooding
- Restrictive development regulations to ensure that any development meets certain standards that take into consideration the threat to the site
- Land swaps, which would provide alternatives to development of the site
- Imposition of design criteria or building standards to govern construction
- Development of wind–resistant construction techniques
- Introducing improved construction techniques to the building industry and general public
- Modifying and strengthening existing structures
- Development of incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety
- Development of incentives to encourage future development on safer sites and safer methods of construction, such as favorable taxation, loans, or subsidies to qualifying building methods or sites
- Diversification of agricultural production—identification and planting of flood–resistant crops or adjustment of planting season, if possible, to avoid coinciding with cyclone and flood season
- Development of family savings programs to establish cash reserves
- Identification and strengthening of local organizations that serve as coping mechanisms
- Reforestation and range management to increase absorption of rainfall and reduce rapid runoff in mountainous areas

## **Preparedness Activities**

Preparedness activities include:

- Developing a disaster preparedness plan to sequence the activities and responsibilities of each participant;
- Developing warning and evacuation procedures for people threatened by floods;
- Training in first aid and trauma care and maintaining stocks of necessary medical supplies; and
- Establishing an emergency communication system regarding evacuation, health, safety, and security.

## Post–Disaster and Emergency Activities

Initial response by local authorities after a cyclone includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short–term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging.

Initial response by foreign aid organizations includes:

- Financial assistance
- Assistance in reopening roads
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification.

Secondary response by local authorities after a cyclone includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Repair and/or reconstruction of housing
- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business, and institutions.

## References for Cyclones

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.



## *Volcanoes*

A volcano is a mountain that opens downward to a reservoir of molten rock below the surface of the earth. Unlike most mountains, which are pushed up from below, volcanoes are built up by an accumulation of their own eruptive products: lava, ashflows, and airborne ash and dust. When pressure from gases and the molten rock becomes strong enough to cause an explosion, eruptions occur. Gases and rock shoot up through the opening and spill over the top or fill the air with ash and lava fragments. The danger area around a volcano typically covers a 20-mile radius, but some danger may exist 100 miles or more from a volcano. Volcanic products are used as building or road-building materials, as abrasive and cleaning agents, and as raw materials for many chemical and industrial uses. Lava ash makes soil rich in mineral nutrients.

### **Primary Effects of Volcanoes**

Three primary effects from volcanoes have been noted.

1. Volcanic ash can affect people hundreds of miles away from the cone of a volcano, making it difficult or impossible to breathe, contaminating water supplies, causing electrical storms, and collapsing roofs. Several of the deaths from the 1980 Mount St. Helens volcano located in the Cascade Range of southwestern Washington state in the United States were attributed to inhalation of ash. The 1992 Mount Pinatubo eruption in the Philippines caused 342 deaths and an evacuation of more than a quarter of a million people.
2. An erupting volcano can trigger tsunamis, flash floods, earthquakes, rockfalls, and mudflows.
3. Sideways-directed volcanic explosions, known as lateral blasts, can shoot large pieces of rock at very high speeds for several miles. These explosions can kill by impact, burial, or heat. They have been known to knock down entire forests. The majority of deaths attributed to the Mount St. Helens volcano resulted from lateral blasts and tree blow-down.

### **Pre–Disaster Activities**

It is important to provide information to the community about volcanoes. Here are some suggestions for ways to accomplish this:

- In a volcano-prone area, provide local emergency information about what to do and where to go in the event of a volcano.
- Bring in an expert to talk with community members about determining the likelihood of a volcanic eruption.
- Conduct a program and train others on how to recognize the warning signals of a possible volcanic eruption.
- Work with local emergency services and officials to prepare special information for people with mobility impairments (disabilities, children) on what to do if an evacuation is ordered.

## Preparedness Activities

Preparedness activities include:

- Develop and inform the public about community warning systems.
- Be prepared for the disasters that can be spawned by volcanoes:
  - Earthquakes
  - Flash floods
  - Landslides and mudflows
  - Thunderstorms
  - Tsunamis
- Develop evacuation plans. It is important to get to high ground away from the eruption. A primary route and a backup route should be planned.
- Develop an emergency communication plan. In case family members are separated from one another during a volcanic eruption, a plan should be made for getting back together.
- Ask an out-of-area relative or friend to serve as the “family contact,” and ensure that everyone knows the contact information of the person.
- Have disaster supplies on hand. These might include:
  - Flashlight and extra batteries
  - Portable, battery-operated radio and extra batteries
  - First aid kit and manual
  - Emergency food and water
  - Non-electric can opener
  - Essential medicines
  - Money
  - Sturdy shoes
  - Goggles and a throw-away breathing mask for each member of the household

## During and Post-Disaster Emergency Activities

Although it may seem safe to stay at home and wait out an eruption, this may be very dangerous. The rock debris from a volcano can break windows and set buildings on fire. Additionally, mudflows are a possible risk during a volcano. Mudflows are powerful rivers of mud that can move faster than people can walk or run. They occur when rain falls through ash-carrying clouds or when rivers are dammed during an eruption. Mudflows are most dangerous close to stream channels. When you approach a bridge, first look upstream. If a mudflow is approaching or moving beneath the bridge, do not cross it. The power of the mudflow can destroy a bridge very quickly. People should follow authorities’ instructions and leave the area before any part of the disaster begins. During the eruption, people should:

- Follow the evacuation orders issued by authorities.
- Avoid areas downwind of the volcano.
- If caught indoors:
  - Close all windows, doors, and dampers.



- Put all machinery inside a garage or barn.
- Bring animals and livestock into closed shelters.
- If trapped outdoors:
  - Seek shelter indoors.
  - If caught in a rockfall, roll into a ball to protect the head.
  - Avoid low-lying area where poisonous gases can collect and flash floods can occur.
  - If caught near a stream, beware of mudflows.
- Protect themselves
  - Wear long-sleeved shirts and pants to avoid irritation or burns.
  - Use goggles to protect eyes.
  - Avoid contact with ash, and, to the extent possible, stay indoors until local health officials advise that it is safe to go outside. Use a dust-mask or hold a damp cloth over the face to help breathing.
  - Turn car or truck engines off and avoid driving in heavy ashfall. Driving stirs up more ash that can clog engines and stall vehicles.
  - Clear roofs of ashfall when the eruption is over. Ashfall is very heavy and can cause buildings to collapse.
- Stay out of the area. A lateral blast of a volcano can travel many miles from the mountain. Trying to watch an erupting volcano is a deadly idea.
- Help neighbors who may require special assistance—those with infants or small children, elderly people, and people with disabilities.

## **Response of Authorities**

Initial response by local authorities after a volcano includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short-term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging

Initial response by foreign aid organizations includes:

- Financial assistance
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification

Secondary response by local authorities after a volcano includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings, and/or relocation
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Construction of housing
- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business, and institutions

## **Lessons Learned**

The following are lessons learned.

- Outbreaks of cholera do not follow volcanoes. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of volcanoes.
- Extensive food aid is rarely required after a volcano.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Volcanoes do not incite panic, hysteria, or rioting.
- Volcano relief and reconstruction programs should be integrated with long-term development programs.

## **References for Volcanoes**

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

## *Floods*

Floods caused by overflowing rivers result from precipitation over large areas or from the melting of the winter's accumulation of snow, or from both. These riverine floods differ from flash floods in their extent and duration. Flash floods are of short duration in small streams, while riverine floods take place in river systems whose tributaries may drain large geographic areas and encompass many independent river basins. Floods on large river systems may continue for periods ranging from a few hours to many days. Flood flows in large river systems are influenced primarily by variations in the intensity, amount, and distribution of precipitation. The condition of the ground—amount of soil moisture, seasonal variations in vegetation, depth of snow cover, and imperviousness due to urbanization—directly affects runoff.

### **Primary Effects of Floods**

Floods are natural hazards that are not, in and of themselves, disasters, but they can transform a vulnerable situation into a disaster. The vulnerability of a human settlement is determined by its exposure to flooding. Siting, soil conditions, absorptive capacity of the watershed, and the capacity of streams to carry runoff all have an effect on the extent of the flooding. Urban and rural communities sited on floodplains of rivers or streams are most at risk. Deaths usually exceed injuries, with surgical needs tending to be low and occurring during the first 72 hours in most cases. However, floods can bring an immediate threat of waterborne diseases and create conditions that promote secondary threats of water- and vector-borne diseases.

The most important determinant of vulnerability is the level of poverty and underdevelopment of a particular group. Poor people usually suffer most in disasters because they often live in weaker houses located in the most undesirable and most vulnerable areas. Furthermore, dramatic increases in population size, distribution, and density increase disaster risk. Urban slums and squatter settlements grow at about twice the average urban rate. Land tenure is also a determinant of vulnerability, especially where there is a scarcity of arable or developed land and poor farmers must engage in agriculture on hazardous land.

Floods can kill people. The number of deaths is significantly higher in developing countries where communications are poor and warning systems and evacuation plans are inadequate. Furthermore, it is expected that the number of deaths will increase as population pressures force people into more vulnerable areas such as low-lying agricultural areas or overcrowded urban slums on floodplains.

Floods can also damage human settlements, force evacuations, damage crops (especially tubers), damage food stocks, strip farmland, wash away irrigation systems, erode or render unusable large areas of land, and change the course of streams and rivers. Floods can also have a beneficial effect by depositing silt in some downstream areas.

### **Secondary Effects of Floods**

A secondary effect of heavy rain and flooding is mudslides, which are caused by supersaturating deforested or stripped hillsides. Significant loss of life can occur in massive mudslides resulting from the torrential rains, especially in squatter settlements located in floodplains.



## Lessons Learned

The following are lessons learned.

- Outbreaks of cholera do not follow floods. Cholera must be endemic to a community beforehand.
- Massive food aid is rarely required after a flood, although food distribution systems may need to be set up immediately after a flood in the affected area.
- Used clothing is almost never needed, is usually culturally inappropriate and, though accepted by disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Flood mitigation and reconstruction programs must be integrated with long-term development programs.
- Reconstruction assistance in agriculture can provide a strong stimulus to recovery and a base for positive changes.
- Reconstruction programs should seek to reduce the vulnerability of communities.
- Reestablishment of the local agriculture, economy, and job security is more important to flood victims than material assistance.
- Waterborne diseases do not increase as a result of floods.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Floods do not incite panic, hysteria, or rioting.

## Pre–Disaster Activities

The majority of the deaths and destruction created by floods are preventable. It is important to note that the public and those supporting them, such as engineers, planners, and politicians, need to understand the nature of the hazard so that decisions and commitments can be made to implement mitigation measures to reduce flood damage. Reducing the harmful effects of flood requires actions on three fronts:

1. Reducing the vulnerability of the physical settlements and structures in which people live;
2. Reducing the vulnerability of the economy; and
3. Strengthening the social structure of a community so that coping mechanisms can help absorb the impact of the disaster and promote rapid recovery.

The first step in reducing vulnerability for human settlements is to identify the high-risk areas. This is done by relating the effects of the flood to the terrain and to the probability that such an event will occur. This activity is addressed through mapping the community. Flood risk mapping would indicate the areas likely to be covered by water during floods of given magnitude. The second step in vulnerability reduction is to identify the communities that are particularly susceptible to damage or destruction, particularly poor communities. Reduction of vulnerability may also involve:



- Development of extensive public awareness programs to inform the public about the hazards and illustrate what can be done to prevent a disaster
- Land–use zoning to control development
- Construction of protective works, such as embankments, to protect from flooding
- Restrictive development regulations to ensure that any development meets certain standards that take into consideration the threat to the site
- Land swaps, which would provide alternatives to development of the site
- Imposition of design criteria or building standards to govern construction
- Development of flood–resistant construction techniques
- Conducting a program for building industry workers and the general public to introduce improved construction techniques
- Modifying and strengthening existing structures
- Constructing raised areas or buildings specified as refuges if evacuation is impossible
- Development of incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety
- Development of incentives to encourage future development on safer sites and safer methods of construction, such as favorable taxation, loans, or subsidies to qualifying building methods or sites
- Diversification of agricultural production—identification and planting of flood–resistant crops or adjusting planting season when possible to avoid coinciding with the flood season
- Establishment of cash and food reserves
- Development of family savings programs to establish cash reserves
- Identifying and strengthening local organizations that serve as coping mechanisms
- Reforestation and range management to increase absorption and to reduce rapid runoff in mountainous areas

## **Preparedness Activities**

Preparedness activities include:

- Developing a disaster preparedness plan to sequence the activities and responsibilities of each participant
- Developing warning and evacuation procedures for people threatened by floods
- Training for first aid and trauma and maintaining stocks of medical supplies
- Establishing an emergency communication system regarding evacuation, health, safety, and security
- Reviewing the siting of critical facilities such as hospitals, government buildings, communications installations, and other structures

## Post–Disaster and Emergency Activities

Initial response by local authorities after a flood includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short–term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging

Initial response by foreign aid organizations includes:

- Financial assistance
- Assistance in reopening roads
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification

Secondary response by local authorities after a flood includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Repair and/or reconstruction of housing
- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business, and institutions

## References for Floods

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Hughes, R. “The Effects of Flooding upon Buildings in Developing Countries.” *Disasters* 6(3): 183–194, 1982.

Owen, J.H. *Equipment for Flood and Flash Flood Warning Systems*. Washington, DC: U.S. Department of Commerce, 1980.



Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

Schware, R. Flood *Forecasting and Warning: The Social Value and Use of Information in West Bengal*. Geneva: United Nations Research Institute, 1981.

Schware, R. "Official and Folk Flood Warning Systems: An Assessment." *Environmental Management* 6(3): 209–216, 1982.

U.S. Water Resources Council. *Regulation of Flood Hazard Areas to Reduce Flood Losses*. Washington, DC: USWRC, 1972.



## *Hurricanes*

A hurricane is a type of tropical cyclone that occurs in the Northern Hemisphere and has winds that have reached a constant speed of 74 mph (119 kph) or more. They are products of the tropical ocean and the atmosphere. Powered by heat from the sea, they are steered erratically by easterly trade winds and temperate westerly winds, as well as by their own energy. While many hurricanes stay out at sea, many also move ashore. If they move ashore, they bring with them a storm surge of ocean water along the coastline, high winds, tornadoes, torrential rains, and flooding.

Hurricane winds blow in a large spiral around a relatively calm center known as the “eye.” The eye is generally 20 to 30 miles (32 to 48 kilometers [km]) wide, and the storm may extend outward 400 miles (645 km). As a hurricane approaches, the skies begin to darken and winds grow in strength. A single hurricane can last for more than two weeks over open waters and can cut a path hundreds of miles long.

### **Primary and Secondary Effects of Hurricanes**

Disasters from hurricanes occur when the human settlements are vulnerable. Vulnerability is determined by the exposure to the storms, the degree to which the houses and other structures can be damaged, and the likelihood that secondary effects could occur. Secondary effects can include flash floods and a storm surge, a large dome of water often 50 to 100 miles (80 to 160 km) wide that arrives up to five hours before the storm and sweeps across the coastline near where a hurricane makes landfall. Along the immediate coast, a storm surge is the greatest threat to life and property, even more so than high winds. Urban and rural communities in unprotected, low-lying coastal areas exposed to hurricanes, or on river floodplains, are considered vulnerable to hurricanes. The possibility of people drowning is a major concern because of sudden flash flooding. Poverty and underdevelopment are key factors determining vulnerability given the structural weakness of the homes and the higher probability for living in exposed locations.

Hurricanes can cost millions, and sometimes billions, of dollars in damages. During a hurricane, homes, businesses, public buildings, and infrastructure may be damaged or destroyed by high winds and high waves. Debris can break windows and doors, allowing high winds and rain inside homes. Roads and bridges can be washed away by flash flooding, or can be blocked by debris. In extreme storms, the force of the wind alone can cause tremendous devastation, as trees and power lines topple and weak elements of homes and buildings fail. Losses are not limited to the coastline: under the right conditions they can extend hundreds of miles inland. There also may be damage to agricultural land, crops, and foodstuffs.

There are a variety of measures that can be taken—both at the individual and community levels—to reduce vulnerability to hurricane hazards. Simple construction measures, such as the use of storm shutters over exposed glass, and the addition of hurricane straps to hold the roof of a structure to its walls and foundation, have proven highly effective in reducing damage from hurricanes. In addition, more complex mitigation measures can be pursued to further reduce a property’s susceptibility. For example, coastal homes and businesses can be elevated to permit coastal storm surges to pass under living and working spaces. Communities can further reduce their vulnerability to hurricanes through the adoption and enforcement of wind- and flood-

resistant building codes. Sound land–use planning can also ensure that structures are not built in the highest hazard areas.

## **Pre–Disaster Activities**

Reducing the harmful effects of a hurricane requires actions on three fronts:

1. Reducing the vulnerability of physical settlements and residential structures;
2. Reducing the vulnerability of the economy; and
3. Strengthening the social structure of a community so that coping mechanisms can help absorb the impact of the disaster and promote rapid recovery.

The first step in reducing vulnerability for human settlements is to identify the high–risk areas. This is done by relating the effects of the hurricane to the terrain and to the probability that a hurricane will occur. This activity is addressed through mapping the community. The second step in vulnerability reduction is to identify those communities that are particularly susceptible to damage or destruction, particularly poor communities. Reduction of vulnerability may also involve:

- Development of extensive public awareness programs to inform the public about the hazards and illustrate what can be done to prevent a disaster
- Land–use zoning to control development
- Construction of protective works, such as embankments, to protect from flooding
- Restrictive development regulations to ensure that any development meets standards that consider the threat to the site
- Land swaps, which would provide alternatives to development of the site
- Imposition of design criteria or building standards to govern construction
- Development of construction techniques that are resistant to hurricane conditions
- Introducing improved construction techniques to the building industry and general public
- Modifying and/or strengthening existing structures
- Development of incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety
- Development of incentives to encourage future development on safer sites and safer methods of construction, such as favorable taxation, loans, or subsidies to qualifying building methods or sites
- Diversification of agricultural production—identification and planting of flood–resistant crops or adjustment of planting season, if possible, to avoid coinciding with hurricane and flood season
- Development of family savings programs to establish cash reserves
- Identification and strengthening of local organizations that serve as coping mechanisms
- Reforestation and range management to increase absorption and reduce rapid runoff in mountainous areas

## Preparedness Activities

Preparedness activities include:

- Developing a disaster preparedness plan to sequence the activities and responsibilities of each participant
- Developing warning and evacuation procedures, including safe evacuation routes and shelters for people threatened by hurricanes, floods, and the destructive hazards that they can cause
- Training in first aid and trauma care and maintaining stocks of medical supplies
- Establishing an emergency communication systems regarding evacuation, health, safety, and security
- Ensuring that disaster supplies are on hand, such as
  - Flashlight and extra batteries
  - Portable, battery–operated radio and extra batteries
  - First aid kit and manual
  - Emergency food and water
  - Nonelectric can opener
  - Essential medical supplies/medicines
  - Money
  - Sturdy shoes
- Additional preparedness activities:
  - Teaching family members how to deal with any in–house utilities in the case of an emergency
  - Protecting the windows of the home or business from high winds or and debris
  - Trimming back dead or weak trees or branches near a home or business
  - Identifying a meeting place in case family members are separated
  - Knowing and sharing contact information

## During a Hurricane Watch

There are a number of activities to take part in during a hurricane watch:

- Listen to the radio for hurricane progress reports
- Check emergency supplies
- Make sure that cars and other vehicles, such as motorcycles have gas
- Bring in outdoor objects and anchor those that cannot be brought inside
- Secure buildings by closing and boarding up windows
- Store perishable food if possible
- Store drinking water in clean containers
- Review evacuation plan
- Moor or move boats to designated safe places; use ropes or chains to secure boats

## During a Hurricane Warning

There are a number of activities in which to take part during a hurricane warning:

- Listen to a battery-operated radio for storm-related instructions.
- If you are in an unsafe building, evacuate it immediately.
- Store valuables and personal papers in a waterproof container on the highest level of the home or business.
- Avoid elevators.
- If you are at home:
  - Stay inside, away from windows, skylights, and glass doors.
  - Keep a supply of flashlights and extra batteries handy. Avoid open flames, such as candles, as a source of light.
  - If power is lost, turn off major appliances to reduce a power surge when electricity is restored.
- If officials indicate evacuation is necessary:
  - Leave as soon as possible. Avoid flooded roads and watch for washed-out bridges.
  - Protect the home from electrical accidents by unplugging appliances and, if possible, turning off the electricity and the main water valve.
  - If possible, tell someone outside of the storm area where you are going.
  - If time permits, and you live in an identified surge zone, elevate furniture to protect it from flooding or move it to a higher floor.
  - Bring pre-assembled emergency supplies, warm protective clothing, blankets, and sleeping bags with you.
  - Lock the house and leave.

## After a Hurricane

- Stay tuned to local radio for information.
- Help injured or trapped persons.
  - Give first aid where appropriate.
  - Do not move seriously injured persons unless they are in immediate danger of further injury.
- Call for help.
- Return home only after authorities advise that it is safe to do so.
  - Avoid loose or dangling power lines and report them immediately to the appropriate authorities.
  - Enter your home with caution.
  - Beware of snakes, insects, and animals driven to higher ground by flood water.
  - Open windows and doors to ventilate and dry your home.
  - Check refrigerated foods for spoilage.
  - Drive only if absolutely necessary and avoid flooded roads and washed-out bridges.
  - If telephone is available, use it only for emergency calls.



- Inspect existing utilities in a damaged home
  - If there is gas heating or air conditioning, check for gas leaks—If there is a smell of gas or there is a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call for help from a neighbor’s home. If gas is turned off for any reason, it must be turned back on by a professional.
  - Look for electrical system damage. If there are sparks, broken or frayed wires, or the smell of hot insulation, turn off the electricity if possible. *Do not step in water to get to a fuse box or circuit breaker. Call for help.*
  - Check for sewage and water line damage. If you suspect sewage lines are damaged, avoid using the toilets. If water pipes are damaged, contact appropriate authorities for help. Do not drink tap water. If there is ice in the refrigerator that was made before the disaster, melt it for drinking water.

## Post–Disaster/Emergency Activities

Initial response by local authorities after a hurricane includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short–term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging

Initial response by foreign aid organizations includes:

- Financial assistance
- Assistance in reopening roads
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification

Secondary response by local authorities after a hurricane includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Repair and/or reconstruction of housing



- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business and institutions

## Lessons Learned

The following are lessons learned.

- Outbreaks of cholera do not follow hurricanes. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of hurricanes.
- Extensive food aid is rarely required after a hurricane.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Hurricanes do not incite panic, hysteria, or rioting.
- Hurricane relief and reconstruction programs should be integrated with long-term development programs.

## References for Hurricanes

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## *Drought*

Operational definitions help define the onset, severity, and end of droughts. Research by Donald A. Wilhite, Director of the National Drought Mitigation Center, and Michael H. Glantz, of the National Center for Atmospheric Research, in the early 1980s uncovered more than 150 published definitions of drought. The definitions reflect differences in regions, needs, and disciplinary approaches. Wilhite and Glantz categorized their collection of definitions into four basic approaches to measuring drought: meteorological, hydrological, agricultural, and socioeconomic. The first three approaches deal with ways to measure drought as a physical phenomenon. The last deals with drought in terms of supply and demand, tracking the effects of water shortfall as it ripples through socioeconomic systems.

- **Meteorological drought** is usually an expression of precipitation's departure from normal over some period of time. Meteorological measurements are the first indicators of drought. These definitions are usually region-specific, and presumably reflect a thorough understanding of regional climatology. The variety of meteorologic definitions from different countries at different times illustrates why it is important not to apply a definition of drought developed in one part of the world to another:
  - United States (1942): less than 2.5 mm of rainfall in 48 hours.
  - Great Britain (1936): 15 consecutive days with daily precipitation totals of less than .25 mm.
  - Libya (1964): when annual rainfall is less than 180 mm
  - India (1960): actual seasonal rainfall deficient by more than twice the mean deviation
  - Bali (1964): a period of six days without rain.
- **Agricultural drought** occurs when there is not enough soil moisture to meet the needs of a particular crop at a particular time. Agricultural drought occurs after meteorological drought but before hydrological drought. Agriculture is usually the first economic sector to be affected by drought.
- **Hydrological drought** refers to deficiencies in surface and subsurface water supplies. It is measured as stream flow and as lake, reservoir, and groundwater levels. There is a time lag between lack of rain and lack of water in streams, rivers, lakes, and reservoirs, so hydrological measurements are not the earliest indicators of drought. When precipitation is reduced or deficient over an extended period of time, this shortage will be reflected in declining surface and subsurface water levels.
- **Socioeconomic drought** occurs when physical water shortages start to affect people, individually and collectively. In more abstract terms, most socioeconomic definitions of drought associate it with the supply and demand of an economic good. One could argue that a physical water shortage with no socioeconomic impacts is a policy success. (See below, the Primary Effects of Droughts.)

No single operational definition of drought works in all circumstances, and this is one reason why policymakers, resource planners and others have more trouble recognizing and planning for drought than for other natural disasters. Most drought planners now rely on mathematic indices to decide when to start implementing water conservation measures in response to drought.

## Primary and Secondary Effects of Drought

Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. (The effects of drought can be categorized as economic, environmental, or social. These can be substantial and are discussed in Appendix 3: *The Full Range of Effects of Drought*.) This complexity exists because water is integral to our ability to produce goods and provide services. Impacts are commonly referred to as direct or indirect. Reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitat are a few examples of direct impacts. The consequences of these impacts produce indirect impacts. For example, a reduction in crop, rangeland, and forest productivity may result in reduced income for farmers and agribusiness, increased prices for food and timber, unemployment, reduced tax revenues because of reduced expenditures, increased crime, foreclosures on bank loans to farmers and businesses, migration, and disaster relief programs. Direct or primary impacts are usually biophysical. Conceptually speaking, the more removed the impact from the cause, the more complex the link to the cause. In fact, the web of impacts becomes so diffuse that it is often difficult to come up with financial estimates of damages.

Drought represents one of the most important natural triggers for malnutrition and famine, a significant and widespread problem in many parts of Africa and in other countries as well. Deaths resulting from famine are sometimes mistakenly attributed to drought rather than to other causes such as war or civil strife. Numerous early warning systems have been established in Africa to monitor a wide range of physical and social variables that signal a trend toward food insecurity. The Southern Africa Development Community (SADC), for example, monitors the regional crop and food situation and issues alerts during periods of impending crisis.

The most important determinant of vulnerability is the level of poverty and underdevelopment of a particular group. The poor suffer most in disasters because they usually live in vulnerable conditions and vulnerable areas; furthermore, dramatic increases in population size, distribution, and density increase disaster risk. Urban slums and squatter settlements grow at about twice the average urban rate. Land tenure is also a determinant of vulnerability, especially where there is a scarcity of arable or developed land and poor farmers must engage in agriculture on hazardous land.

## Pre-Disaster Planning and Activities

Planning is the key to drought mitigation. Effective resources management requires a coordinated effort to address the interrelated issues of water conservation and planning for drought. Measures must be considered to increase available water supplies and to improve the efficient use of those supplies, but the specific type of measures put into place must be a result of individual country realities and conditions. Appropriate measures will include structural and nonstructural actions, or a combination of both. A symbiotic relationship exists between water conservation and drought planning: By conserving existing water supplies through efficient management or by developing new water supplies, the potential effects of drought are reduced and mitigation needs are diminished. The issues outlined below should be taken into account in the development of drought mitigation:

- Effective measures to mitigate drought will likely involve water management and conservation programs that provide for more efficient and effective use of water and a series of staged drought preparedness contingency plans which are implemented in steps as drought conditions intensify.
- Water resource management under drought conditions may require the cooperation of a consortium of national, regional, and local interests.
- Actions must be responsive to needs in developing and implementing drought emergency and contingency plans.
- Assistance on various levels will be needed to coordinate water conservation programs, contingency plans for drought–induced water shortages, and voluntary water transfers.
- Effective water quantity and quality management requires consideration of both water supply and water demand.
- Public education and technical assistance are key in promoting water–use efficiencies.
- As water conservation efforts prove successful and water use changes, drought contingency plans will need to be revised.

Water conservation activities can be achieved through various actions that depend upon the particular country conditions. Overall, these actions include:

- Improving the accuracy of seasonal runoff and water supply forecasts
- Modifying project operations
- Improving water scheduling
- Providing onstream, offstream, and underground storage of excess water
- Instituting conjunctive use of surface and ground water
- Implementing water quality management and wastewater reuse
- Reducing water conveyance losses
- Reducing water consumption by changing the type of water application system or using a metered approach if possible
- Advancing water conservation and effective resources management through education and training programs

The value of contingency planning is that it offers the opportunity for all parties to reach agreement about the use of scarce water resources prior to the time of crisis brought about by a drought. Procedural and other considerations that would otherwise delay implementation of the plans should be addressed and resolved during the contingency planning process.

## **Post–Disaster/Emergency Activities**

Initial response by local authorities during a drought includes:

- Medical assistance
- Disaster assessment
- Food and water distribution
- Epidemiological surveillance



- Refugee assistance
- Conflict resolution

Initial response by foreign aid organizations includes:

- Food and water assistance
- Financial assistance
- Disaster assessment
- Refugee assistance

Secondary response by local authorities during a drought includes:

- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc., and
- Repatriation efforts.

Secondary response by foreign agencies includes:

- Creation of jobs
- Credit
- Technical assistance, and
- Assistance to recovery of agriculture, small businesses, and institutions.

## **Lessons Learned**

The following are lessons learned.

- Outbreaks of cholera do not follow droughts. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of droughts.
- Extensive food aid is rarely required after a drought.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Droughts do not incite panic, hysteria, or rioting.
- Drought relief and reconstruction programs should be integrated with long-term development programs.

## **References for Droughts**

National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)).



National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)). "The Reclamation States Drought Assistance Act of 1988." Lincoln, NE: NDMC, 1988.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## Appendix 3:

### *The Full Range of Effects of Drought*

Many economic impacts of drought occur in agriculture and related sectors, including forestry and fisheries, because these sectors rely on surface and subsurface water supplies. In addition to obvious losses in yields in both crop and livestock production, drought is associated with increases in insect infestations, plant disease, and wind erosion. Droughts also reduce growth and bring increased problems with insects and diseases to forests. The incidence of forest and range fires increases substantially during extended droughts, which in turn places both human and wildlife populations at higher levels of risk.

Loss of income is another indicator used in assessing the impacts of drought because so many sectors are affected. Reduced income for farmers has a ripple effect. Retailers and others who provide goods and services to farmers face reduced business. This leads to unemployment, increased credit risk for financial institutions, capital shortfalls, and loss of tax revenue for local, state, and federal governments. Less discretionary income affects the recreation and tourism industries. Prices for food, energy, and other products increase as supplies are reduced. In some cases, local shortages of certain goods make it necessary to import these goods from outside the affected region. Reduced water supply impairs the navigability of rivers and results in increased transportation costs because products must be transported by rail or truck. Hydropower production may also be significantly curtailed.

Environmental losses result from damage to plant and animal species, wildlife habitat, and air and water quality; forest and range fires; degradation of landscape quality; loss of biodiversity; and soil erosion. Some of the effects are short-term and conditions quickly return to normal following the drought. Other environmental effects linger for some time and some may become permanent. Wildlife habitat, for example, may be degraded through the loss of wetlands, lakes, and vegetation. However, many species will eventually recover from this temporary aberration. The degradation of landscape quality, including increased soil erosion, may lead to a more permanent loss of biological productivity of the landscape. Although environmental losses are difficult to quantify, growing public awareness and concern for environmental quality have forced public officials to focus more attention and resources on these effects.

Social impacts mainly involve public safety, health, conflicts between water users, reduced quality of life, and inequities in the distribution of impacts and disaster relief. Many of the impacts specified as economic and environmental have social components as well. Population out-migration is a significant problem in many countries, often stimulated by greater availability of food and water elsewhere. Migration is usually to urban areas within the drought area or to regions outside it; migration may even be to adjacent countries, creating refugee problems. However, when the drought has abated, these persons seldom return home, depriving rural areas of valuable human resources necessary for economic development. For the urban area to which they have immigrated, they place ever-increasing pressure on the social infrastructure, possibly leading to greater poverty and social unrest. The drought-prone northeast region of Brazil, for example, had a net loss of nearly 5.5 million people between 1950 and 1980. Although not all of this population shift was directly attributable to drought, it was a primary factor for many in the



decision to relocate. This continues to be a significant problem in Brazil and other drought-prone countries.

Drought represents one of the most important natural triggers for malnutrition and famine, a significant and widespread problem in many parts of Africa and in other countries as well. Deaths resulting from famine are sometimes mistakenly attributed to drought rather than to underlying causes such as war or civil strife. Numerous early warning systems have been established in Africa to monitor a wide range of physical and social variables that signal a trend toward food insecurity. The Southern Africa Development Community (SADC), for example, monitors the crop and food situation in the region and issues alerts during periods of impending crisis.

## **Economic Impact**

- Loss from crop production
  - Annual and perennial crop losses
  - Damage to crop quality
  - Reduced productivity of cropland (wind erosion, etc.)
  - Insect infestation
  - Plant disease
  - Wildlife damage to crops
- Loss from dairy and livestock production
  - Reduced productivity of rangeland
  - Forced reduction of foundation stock
  - Closure/limitation of public lands to grazing
  - High cost/unavailability of water for livestock
  - High cost/unavailability of feed for livestock
  - High livestock mortality rates
  - Disruption of reproduction cycles (breeding delays or unfulfilled pregnancies)
  - Decreased stock weights
  - Increased predation
- Range fires
  - Loss from timber production
  - Wildland fires
  - Tree disease
  - Insect infestation
  - Impaired productivity of forest land
- Loss from fishery production
  - Damage to fish habitat
  - Loss of young fish due to decreased water flow
- Loss of national economic growth, retardation of economic development
- Income loss for farmers and others directly affected

- Loss of farmers through bankruptcy
- Unemployment from drought-related production declines
- Loss to recreational and tourism industry
- Loss to manufacturers and sellers of recreational equipment
- Increased energy demand and reduced supply because of drought-related power curtailments
- Costs to energy industry and consumers associated with substituting more expensive fuels for hydroelectric power
- Loss to industries directly dependent on agricultural production, such as machinery and fertilizer manufacturers, food processors, etc.
- Decline in food production/disrupted food supply
  - Increase in food prices
  - Increased importation of food resulting in higher food costs
- Disruption of water supplies
- Revenues to water supply firms
  - Revenue shortfalls
  - Windfall profits
- Strain on financial institutions due to foreclosures, greater credit risks, capital shortfalls, etc.
- Revenue losses to federal, state, and local governments from reduced tax base
- Loss from impaired navigability of streams, rivers, and canals
- Cost of water transport or transfer
- Cost of development of new or supplemental water resources
- Cost of increased groundwater depletion (mining), land subsidence
- Decreased land prices

## **Environmental Impact**

- Damage to animal species
  - Reduction and degradation of fish and wildlife habitat
  - Lack of feed and drinking water
  - Disease
  - Increased vulnerability to predation due to species concentration near water
  - Migration and concentration, including loss of wildlife in some areas and too many wildlife in others
  - Increased stress to endangered species
- Damage to plant species
- Increased number and severity of fires
- Loss of wetlands
- Estuarine impacts and changes in salinity levels
- Increased groundwater depletion, land subsidence

- Loss of biodiversity
- Wind and water erosion of soils
- Reservoir, lake, and drawdown, including farm ponds
- Water quality effects, including salt concentration, increased water temperature, pH, dissolved oxygen, and turbidity
- Reduced flow from springs
- Air quality effects, such as dust, pollutants
- Visual and landscape quality

## **Social Impact**

- Food shortages resulting in decreased nutritional levels, malnutrition, famine
- Loss of human life due to food shortages, heat, suicides, and violence
- Public safety from forest and range fires
- Mental and physical stress, including anxiety, depression, loss of security, and domestic violence
- Health-related low-flow problems such as cross-connection contamination, diminished sewage flows, increased pollutant concentrations, reduced fire fighting capability, etc.
- Increased respiratory ailments
- Increased disease caused by wildlife concentrations
- Increased conflicts
  - Water user conflicts
  - Political conflicts
  - Management conflicts
  - Social unrest, civil conflicts
  - Other social conflicts such as scientific, media-based conflicts
- Disruption of cultural belief systems relating to religious and scientific views of natural hazards
- Reevaluation of social values, including priorities, needs, and rights
- Reduction or modification of recreational activities
- Public dissatisfaction with government regarding drought response
- Recognition of institutional restraints on water use
- Inequity in the distribution of drought relief
- Inequity in drought impacts based on:
  - Socioeconomic group
  - Ethnicity
  - Age
  - Gender
  - Seniority
- Loss of cultural sites

- Loss of aesthetic values
- Reduced quality of life, changes in lifestyle
  - in rural areas
  - in specific urban areas
  - increased poverty in general
- Population migrations from rural to urban areas and into other regions or countries
- Increased data/information needs, coordination of dissemination activities

## *Appendix 4:*

# *Appropriate Roles for Peace Corps Volunteers, by Type of Disaster*

The following pages identify the roles that Peace Corps Volunteers may take in disaster management. Many roles are not hazard–specific and would be appropriate for either full– or part–time assignments. Those that are, are so noted.

## **Appropriate roles in various hazard situations**

There are many ways Volunteers can provide assistance in hazard situations.

**Capacity–building.** Volunteers can utilize community assessments to understand the range of local knowledge about disasters and the capacity to mitigate them. Building on local knowledge, volunteers can further strengthen local capacity by **starting** up and replicating such knowledge and practices.

**Public awareness.** Volunteers can be trained and provided with appropriate materials to conduct public awareness workshops on the nature and risk of hazards and what can be done to mitigate and prepare for them.

**Preparedness planning.** Volunteers can work with the community to develop a local disaster preparedness plan (such as a checklist of actions and people responsible for them). Any preparedness activity, no matter how small, can potentially save lives and reduce property damage.

**Economic protection.** Economic development specialists can encourage the establishment of lending institutions to provide money for housing improvement and encourage the poor to establish cash reserves for possible emergencies. Co–ops are a major source of reconstruction loans to the poor who often cannot qualify for other financial assistance.

**Search and rescue activities.** Volunteers can help form committees that can offer assistance in the wake of a disaster.

**Distribution of relief.** This is an important role in the aftermath of most disasters.

**Distribution of shelter materials.** Given the desire of individuals to hold onto what they have, Volunteers can distribute more appropriate and/or safer building materials.

**Disaster assessment.** With training in disaster management, Volunteers can be instrumental in providing needed information to local or international assistance groups about what needs to be done.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.



**Site selection.** With adequate training in disaster management, and particularly with a background in planning or geology, Volunteers can help city planners conduct risk and vulnerability analyses and advise urban dwellers about safe living areas.

## **Additional roles specific to earthquakes**

**Housing improvement.** If Volunteers have training as engineers and architects, they can play important roles in planning and executing programs to improve local housing and building construction methods to an earthquake-resistant standard in both mitigation and reconstruction programs.

**Structural surveys.** Engineers and architects also can assist in assessing building safety before and after earthquakes.

**Monitoring seismic events.** If Volunteers have special training and background in this area, they may be able to assist authorities in monitoring seismic events. They might also help with the translation of scientific data at the community level.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in-country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to volcanic eruptions**

**Early warning.** Volunteers can be trained and provided with appropriate materials to facilitate early-warning messages and to tailor those messages to the needs of the community.

**Evacuation.** Volunteers can assist with orderly evacuations.

**Housing reconstruction.** Adequately trained Volunteers (i.e., those that have an engineering or construction background) can provide technical assistance to volcano victims.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in-country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to floods**

**Agricultural and food protection.** Volunteers promoting vegetable gardening can introduce flood-resistant, culturally acceptable crops. Agronomists can work with farmers to select alternative farming patterns or flood-resistant crops that mature at times of low risk.

**Harvest protection and food storage.** Appropriate technology specialists can help small farmers build appropriate, strong grain silos to help protect harvests until they are used and/or sold.

**Forestation.** Forestry Volunteers can help reduce vulnerability through reforestation efforts that may significantly reduce rapid rain runoff and subsequent flooding. Volunteers can also promote the use of fuel-efficient woodstoves, if appropriate. This activity helps to lessen deforestation pressure.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to hurricanes and cyclones**

**Food and agricultural planning.** Volunteers promoting vegetable gardening can introduce flood–resistant crops that are culturally acceptable. Agronomists can work with farmers to select alternative farming patterns or flood– and wind–resistant crops that mature at times of low risk.

**Harvest protection.** Appropriate technology specialists can help small farmers build strong grain storage facilities to help protect harvests until they are sold.

**Reforestation and watershed management.** Volunteer foresters can help reduce vulnerability through reforestation designed to reduce rapid rain runoff and subsequent flooding. On lowlands, Volunteers can promote the strategic planting of trees to serve as windbreaks.

**Housing improvement.** Volunteers with a background in engineering, architecture, or the building trades can help families to strengthen existing structures and make them more wind– and water–resistant. Much can be done at little cost, using locally available materials.

**Housing reconstruction.** Volunteers can provide technical assistance to hurricane victims, especially building tradesmen, to improve the performance of new structures and to optimize site selection.

**Building surveys.** Volunteer engineers or architects, if properly trained, can assess the survivability of large buildings such as schools and churches that are commonly designated as hurricane shelters and then work with the community to strengthen structures or identify alternative protection strategies.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to droughts**

**Agricultural and food protection.** Volunteers promoting vegetable gardening can introduce drought–resistant, culturally acceptable crops. Agronomists can work with farmers to select alternative farming patterns or drought–resistant crops.

**Food storage.** Appropriate technology Volunteers can provide small farmers with technical assistance to build appropriate grain silos to help protect harvests.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## Volunteer Disaster Roles Comparison Chart

While many of the roles of Volunteers are similar across the various types of disasters, there are differences that correspond with the effects of each type of disaster. Trainees/Volunteers should be encouraged to explore the specifics of each of the types of activities in which they might get involved according to the disaster(s) that they are most likely to encounter.

Type of Disaster	Effects	Roles for Volunteers
Earthquake	<b>Primary effects</b> <ul style="list-style-type: none"> <li>• Violent ground movement</li> <li>• Structural movement</li> <li>• Structural failure</li> <li>• Structural collisions</li> <li>• Ground liquification</li> <li>• Injury and death by structural collapse</li> </ul> <b>Secondary effects</b> <ul style="list-style-type: none"> <li>• Landslides</li> <li>• Fires</li> <li>• Tsunamis</li> <li>• Floods</li> </ul>	Public awareness Preparedness planning Economic mitigation Search and rescue activities Distribution of relief Distribution of shelter materials Disaster assessment Translation services Housing site selection Housing improvement Structural surveys Monitoring of seismic events
Cyclone	<b>Primary effects</b> <ul style="list-style-type: none"> <li>• Destruction of human settlements</li> <li>• Death and injuries by drowning, structural collapse, flying objects</li> </ul> <b>Secondary effects</b> <ul style="list-style-type: none"> <li>• Mudslides</li> </ul>	Public awareness Preparedness planning Economic protection programs Housing reconstruction Assistance to other agencies as needed (reconstruction and recovery)
Volcano	<b>Primary effects</b> <ul style="list-style-type: none"> <li>• Damage from volcanic ash (breathing difficulties, contamination of water supplies, electrical storms, collapsing roofs)</li> <li>• Tsunamis, flash floods, earthquakes, rockfalls, mudflows</li> <li>• Sideways directed volcanic explosions (lateral blasts) that can shoot large pieces of rock at very high speeds for several miles</li> </ul>	Public awareness Preparedness planning Site selection Agricultural and food protection Harvest protection Food storage Forestation Economic protection Assistance to other agencies







Type of Disaster	Effects	Roles for Volunteers
Flood	<p><b>Primary effects</b></p> <ul style="list-style-type: none"><li>• Destruction of vulnerable human settlements (the most important determinant of vulnerability is the level of poverty)</li><li>• Drowning</li><li>• Crop and food damage</li><li>• Undermine farmland</li><li>• Wash away irrigation systems</li><li>• Change in the course of rivers or streams</li></ul> <p><b>Secondary effects</b></p> <ul style="list-style-type: none"><li>• Mudslides</li><li>• Epidemics</li></ul>	<p>Public awareness Preparedness planning Site selection Agricultural and harvest/food protection Food storage Forestation Economic protection Assistance to other agencies</p>
Hurricane	<p><b>Primary effects</b></p> <ul style="list-style-type: none"><li>• Destruction of vulnerable human settlements</li><li>• Drowning</li><li>• Destruction of bridges and roads</li><li>• Destruction of trees and forest land</li><li>• Power line destruction and damage</li><li>• Destruction of agricultural land, crops, food stuffs</li></ul> <p><b>Secondary effects</b></p> <ul style="list-style-type: none"><li>• Mudslides</li><li>• Epidemics</li></ul>	<p>Public awareness Preparedness planning Site selection Food and agricultural planning Reforestation and watershed management Economic protection Housing improvement/reconstruction Building surveys Assistance to other agencies</p>



Type of Disaster	Effects	Roles for Volunteers
Drought	<p><b>Primary effects</b></p> <ul style="list-style-type: none"><li>• Reduced crop, rangeland, and forest productivity</li><li>• Increased fire hazard</li><li>• Reduced water levels</li><li>• Increased livestock and wildlife mortality rates</li><li>• Damage to wildlife and fish habitat</li></ul> <p><b>Indirect impact of the above</b></p> <ul style="list-style-type: none"><li>• Reduced income for farmers and agribusiness</li><li>• Increased prices for food and timber</li><li>• Unemployment</li><li>• Reduced tax revenues</li><li>• Increased crime</li><li>• Foreclosures on bank loans to farmers and businesses</li><li>• Migration</li><li>• Malnutrition and famine</li><li>• Disaster relief programs</li></ul>	<p>Public awareness Preparedness planning Agricultural and food protection Food storage Economic protection Assistance to other agencies</p>

## Appendix 5:

### Resources and Reference Materials

American Red Cross. *Earthquake*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Fire*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Flood*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Tornado*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Winter Storm*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Your Evacuation Plan: What To Do if a Disaster Threatens and You Need To Leave Home in a Hurry*. Washington, DC: ARC, April 1998.

American Red Cross. *Wildfire: Are You Prepared?* (Pamphlet.) Washington, DC: ARC, 1993.

American Red Cross and the International Federation of the Red Cross and Red Crescent website ([www.redcross.org](http://www.redcross.org)).

Anderson, M.B., and Woodrow, P.J. *Rising From the Ashes: Development Strategies in Times of Disaster*. Boulder, CO: Lynne Rienner Publishers, Inc., 1998. (ICE number CD056)

Caribbean Disaster Emergency Response Agency website ([www.cdera.gov](http://www.cdera.gov)), 2000.

Caribbean Disaster Emergency Response Agency website ([www.cdera.org](http://www.cdera.org)), July 2000. "Report from the Third Caribbean Conference on National Hazards," Barbados, October 13–15, 1999.

Centers for Disease Control and Prevention website ([www.cdc.gov](http://www.cdc.gov)).

Community Disaster Awareness Education website ([www.redcross.org/disaster.safety](http://www.redcross.org/disaster.safety)).

Cuny, F. *Disasters and Development*. Oxford: Oxford University Press, 1983. (ICE number CD020)

Department of Regional Development and Environment, Executive Secretariat for Economic and Social Affairs. *Disasters, Planning, and Development: Managing Natural Hazards To Reduce Loss*. Washington, DC: Organization of American States, December 1990.

Emergency Preparedness Information Center website ([www.theepicenter.com](http://www.theepicenter.com)).

Federal Emergency Management Agency. *Emergency Management Institute Catalog*. Washington, DC: FEMA, 1999.

Federal Emergency Management Agency. "International Cooperation in Emergency Preparedness and Disaster Management." Washington, DC: FEMA, June 1999.

Federal Emergency Management Agency, Tropical Storm Watch website ([www.fema.gov.trop.htm](http://www.fema.gov.trop.htm)).

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). International Federation of the Red Cross and Red Crescent. “World Disasters Report Predicts a Decade of Super–Disaster.” Geneva, Switzerland: IFRCRC, June 24, 1999.

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “Oregon Targets ‘Disaster Cycle’—Project Impact Up and Running—Salem.” Washington, DC: FEMA, July 29, 1998.

Hughes, R. “The Effects of Flooding upon Buildings in Developing Countries.” *Disasters* 6(3): 183–194, 1982.

Institute for Business and Home Safety ([www.ibhs.org](http://www.ibhs.org)). “Is Your Home Protected From Hurricane Disaster? —A Homeowner’s Guide to Hurricane Retrofit.” Boston, MA: Institute for Business and Home Safety, 1998.

InterAction. “Weaving Gender in Disaster and Refugee Assistance.” Washington, DC: InterAction, July 1998.

International Association of Volcanology and Chemistry of Earth’s Interior. ***Reducing Volcanic Risk: Tavurur Volcano Erupts Near Rabaul Town in Papua New Guinea***. (Video.) Campbell, Australia: IAVCEI, 1997.

International Disaster Information Network website ([www.smamedia.wdnetwork.com/hri/idin/usa.html](http://www.smamedia.wdnetwork.com/hri/idin/usa.html)).

International organizations working in relief and emergency assistance—website ([www.relief.web](http://www.relief.web)).

Kjargaard, J.L. ***Kilauea, Close-Up of an Active Volcano***. (Video.) Volcano, HI: Ka’Io Productions, 1994.

Krafft, M. ***Understanding Volcanic Hazards: 1982 Eruption of a Galunggung Volcano From Tasikmalaya, Indonesia***. (Video.) Campbell, Australia: International Association of Volcanology and Chemistry of Earth’s Interior, 1995.

List of disaster resources on the Internet—website ([www.agctr.lsu.edu/eden/netresources.htm](http://www.agctr.lsu.edu/eden/netresources.htm)).

National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)). “The Full Range of Effects of Drought (adjunct for section on Droughts).” Lincoln, NE: NDMC, 2000.

National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)), May 2000.

National Drought Migration Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)). “The Reclamation States Drought Assistance Act of 1988.” Lincoln, NE: NDMC, 1988.

National Fire Protection Association website ([www.nfpa.org](http://www.nfpa.org)).

National Institutes of Health. “Disaster Work and Mental Health: Prevention and Control of Stress Among Workers.” Bethesda, MD: NIH, 1983.

National Safety Council and Lowe’s Home Safety Council website ([www.lowes.com](http://www.lowes.com)). “Top 20 for Home Safety.” Itasca, IL: NSC, 1998.

National Weather Service website ([www.nws.noaa.gov](http://www.nws.noaa.gov)).

Office of Volunteer Safety and Overseas Security, Peace Corps. Washington, DC.

Organization of American States website ([www.oas.org](http://www.oas.org)).

Owen, J.H. *Equipment for Flood and Flash Flood Warning Systems*. Washington, DC: U.S. Department of Commerce, 1980.

Pacific Disaster Center website ([www.pdc.org](http://www.pdc.org)).

Pan American Health Organization website ([www.paho.org](http://www.paho.org)).

Peace Corps. *Crisis Management Training Module*. Office of Special Services: Peace Corps/Washington, 1997. (May be available through Medical Office).

Peace Corps. *Evacuation Support Guide: A Guide for Peace Corps Staff*. Washington, DC: Peace Corps, January 2000.

Peace Corps. *Participatory Analysis for Community Action*.. Washington, DC: Peace Corps, 1996. (ICE number M0053)

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

Peace Corps. “Psychosocial Issues in Disasters.” Washington, DC: Peace Corps, 1983.

Post Emergency Action plan. Peace Corps. (Post–specific—see your country director)

Prevention, Mitigation, Preparedness, and Planning Division. *Mitigation Practitioner’s Handbook*. Washington, DC: U.S. Agency for International Development, Bureau for Humanitarian Response, Office of Foreign Disaster Assistance, October 1998.

Sancio, R.T. “Disaster in Venezuela: The floods and landslides of December 1999.” *Natural Hazards Observer*. (Newsletter.) Vol. XXIV, No. 4. Boulder, CO: University of Colorado, Natural Hazards Center, 2000.

Schware, R. “Official and Folk Flood Warning Systems: An Assessment.” *Environmental Management* 6(3): 209–216, 1982.

Schware, R. Flood *Forecasting and Warning: The Social Value and Use of Information in West Bengal*. Geneva, Switzerland: United Nations Research Institute, 1981.

United Nations Disaster Relief Office. *Shelter After Disaster*. New York: UN, 1982.

United Nations High Commission for Refugees website ([www.unhcr.ch](http://www.unhcr.ch)).

U.S. Agency for International Development, Office of Foreign Disaster Assistance website ([www.info.usaid.gov/hum\\_response/ofda](http://www.info.usaid.gov/hum_response/ofda)), 2000. United Nations. “Disasters: A Deadly and Costly Toll Around the World.” New York: UN, 1997.



U.S. Agency for International Development, Office of Foreign Disaster Assistance website ([www.info.usaid.gov/hum\\_response/ofda](http://www.info.usaid.gov/hum_response/ofda)).

U.S. Geological Survey. *Implications for Earthquake Risk Reduction in the United States From the Kocaeli, Turkey, Earthquake of August 17, 1999*. Circular 1193. Washington, DC: U.S. Department of the Interior, January 2000.

U.S. Geological Survey. Center for Integration of Natural Disaster Information. FS 98–166. Washington, DC: U.S. Department of the Interior, December 1998.

U.S. Geological Survey. “The U.S. Geological Survey Recent Highlights—Hazards.” FS 96–248. Washington, DC: U.S. Department of the Interior, December 1997. pp. 188–197.

U.S. Geological Survey. *Perilous Beauty, Hidden Dangers of Mount Rainier*. (Video.) Washington, DC: U.S. Department of the Interior, 1996.

U.S. Geological Survey. *Hurricane Force: A Coastal Perspective*. (Video.) Washington, DC: U.S. Department of the Interior, 1994.

U.S. Geological Survey website ([www.usgs.gov](http://www.usgs.gov)).

U.S. Water Resources Council. *Regulation of Flood Hazard Areas to Reduce Flood Losses*. Washington, DC: USWRC, 1972.



# *PARTICIPANT WORKBOOK*

## **Disaster Preparedness and Mitigation (DPM)**



“An ounce of prevention  
is worth a pound of cure.”





# *WELCOME TO YOUR DISASTER PREPAREDNESS and MITIGATION WORKSHOP*

It is a pleasure to welcome you as a participant in this workshop. This workshop was designed with you and members of the community in which you live in mind. By sharing experiences and exploring new ideas, those participating become both teachers and learners. The ultimate goal of the Workshop is to reduce the negative impacts of and losses caused by future disasters and emergencies through the process of teaching and learning from others, both in the Workshop and in communities. The goals of the Workshop are:

1. To raise the consciousness of Workshop participants about the importance of disaster preparation and mitigation.
2. To reduce the vulnerability of participant communities and lessen the impact of natural disasters through training community leaders and Peace Corps Volunteers in Community Disaster Preparedness.

The primary challenge that this Workshop offers participants is to share what they learn with others and motivate their neighbors to complete Disaster Preparedness or Community Action Plans for their communities. Part One of the Workshop lasts two days and focuses on studying the community in which participants live. Only by knowing their communities well can community members develop realistic, responsive, and adequate Disaster Preparedness Plans. Part Two of the Workshop is designed to help participants share their accomplishments in developing their community Disaster Preparedness Plans. A Community Action Plan will not work unless it is a product of as many segments of the community as possible. Part Two helps participants ensure that this is the case. This Workbook guides participants in the development of their Disaster Preparedness Plans. When the Workshop is over, participants will be better prepared to continue their work in disaster preparedness with and within their communities.

**REMEMBER, SUCCESS DEPENDS ON YOU!**

## SHARING OUR EXPERIENCES

This exercise corresponds to Part One, Session 2 of the In-Service Training (IST). The focus of the exercise is to help Volunteers learn more about typical reactions in disaster situations and, to help them cope with their own possible involvement, to think about how they might react in a disaster.

1. Think about being involved in a hazard just before the worst effects of a disaster hit. You likely would already be experiencing many difficulties.

What are you feeling and thinking? What do you do? What actions does your community take to prepare for what is coming?

2. When the worst effects are taking place, such as bridges collapsing, roads washing out, rivers flooding homes and villages:

What are you feeling and thinking? How do you react? What actions do you take? What happens in your community? What losses occur?

3. After the disaster is over, what steps have been taken and can be taken to ensure that the same thing never happens in the future?

What can you do? What actions can you take? What can your community do? What can the government or other institutions do?

## **THE HISTORY OF OUR COMMUNITY**

**The past can teach us  
what may happen in the future.**

For you, what is a disaster?

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Disasters are human and material losses  
caused by nature or human beings  
that exceed humanity's coping capacity.

*Community Disaster Preparedness Plan*  
*for the Community of: \_\_\_\_\_*

**1. Historical Background:**

The community of \_\_\_\_\_ was founded in \_\_\_\_\_.

Write here an important historical fact (political, educational, or social) about the community in which you live that has been important to the town's development.

What are some of the community's customs—religious, political, or otherwise—that you think are important to the town in which you live?

**2. Geography of the Area:**

Describe the geography of your region. Include information about the community's location, its physical size, its climate, and the location of any rivers, mountains, and neighboring towns.



**3. Destructive Events:**

**A. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):

**B. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):



**C. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):



**D. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):

## **VULNERABILITIES ANALYSIS**

Vulnerabilities are long-term weaknesses that exist in our communities and make us susceptible to damages caused by hazards.

Which ones exist in our communities?

## *HAZARD WORKSHEET*

The hazards and risks that our community faces:





## VULNERABILITIES ANALYSIS

In this section, you will identify the hazards and risks that your community faces, as well as your community's vulnerabilities. To complete the vulnerabilities analysis, you must consider the weaknesses that exist in your community in the face of the hazards you confront.

**HAZARDS:** Potentially dangerous events, such as hurricanes, earthquakes, forest fires, deforestation or heavy rains

**RISKS:** Potential results of a hazardous event

**VULNERABILITIES:** Long-term weaknesses in a community that endanger life and livelihood and are likely to suffer damage as a result of a hazard

Following is an example of one way to complete a vulnerabilities analysis. The hazards this community faces are probably the same ones you described in the previous section on destructive events, although there may be others.

HAZARD	RISK	VULNERABILITIES
Heavy rainfall	Flooding	<ul style="list-style-type: none"> <li>• Corn and bean crops planted near the river</li> <li>• 12 houses near the river</li> <li>• Rope bridge south of the community</li> <li>• Rose Valley Elementary School at the foot of Big Hill</li> </ul>
	Landslides	<ul style="list-style-type: none"> <li>• The road to Sandy Bottom</li> <li>• 16 mud and stick houses located on Big Hill</li> <li>• 235 plots of basic grains planted on unimproved hillsides</li> </ul>
Drought	Crop loss Lack of water	<ul style="list-style-type: none"> <li>• 312 plots of basic grains planted without irrigation system</li> <li>• Low income for 35 subsistence-farming families</li> <li>• The town water system will be unable to supply 50 homes with water</li> </ul>
	Negative impact on residents' health	<ul style="list-style-type: none"> <li>• 125 children under 5 years old</li> <li>• 23 pregnant and/or fertile women</li> <li>• Seniors that fall ill</li> </ul>



Based on the example on the previous page and your community's history, analyze your community's vulnerabilities, hazards, and risks. Use specific information (number of houses, persons, etc.) to describe vulnerabilities.

HAZARD	RISK	VULNERABILITIES

Continue on next page

HAZARD	RISK	VULNERABILITIES

Continue on next page

<b>VULNERABILITIES</b>	
<b>RISK</b>	
<b>HAZARD</b>	

## **RESOURCE and CAPACITY INVENTORY**

Resources and capacities are the strengths  
that exist in our communities.

### **PHYSICAL RESOURCES:**

The physical strengths in our communities, such as vehicles, buildings, stores, parks, and schools.

### **HUMAN RESOURCES:**

The human strengths in our communities, such as nurses, plumbers, teachers, organizations, and clubs.

### **CAPACITIES:**

The functions of each of the physical and human resources that could provide assistance during emergency situations.





## RESOURCE AND CAPACITY INVENTORY

**PHYSICAL RESOURCES:** The physical strengths in our communities, such as vehicles, buildings, stores, parks, and schools.

**HUMAN RESOURCES:** The human strengths in our communities, such as nurses, plumbers, teachers, organizations, and clubs.

**CAPACITIES:** The functions of each of the physical and human resources that could provide assistance during emergency situations.

List your community's physical resources and their respective capacities:

Physical Resources	Capacities

Continue on next page

List your community’s physical resources and respective capacities:

Physical Resources	Capacities



## INVENTORY OF PHYSICAL AND HUMAN RESOURCES AND CAPACITIES

- 1. Organizations.** Fill in the chart on the next two pages with the different organizations in your community, such as: Emergency Committee, Town Council, Environmental Club, Parent Teachers Association, Women's Club, Soccer Team, Religious Groups, and Youth Groups. Specify the name of each group, the president, number of members and the strengths that the group has in the face of your community's vulnerabilities.

The following chart is an example of an inventory of organizations in a community.

Organization (Resource)	President	Number of Members	Strengths (Capacities)
Environmental Committee	Ms. Bird	6	<ul style="list-style-type: none"> <li>Ms. Bird is great at organizing and motivating people.</li> <li>The members of the committee are committed to improving the community and would be motivated to help in emergencies.</li> <li>They can carry out reforestation projects with school children to help reduce future problems with landslides and water shortages.</li> </ul>
The Eagles Soccer Team	Mr. Foot	20	<ul style="list-style-type: none"> <li>Many of the athletes are experienced leaders and can motivate people.</li> <li>The players can help in rescue and evacuation and with reconstruction projects.</li> </ul>
Community Emergency Committee	Mr. Boss, Mayor	22	<ul style="list-style-type: none"> <li>The mayor is well-respected in the community, and people will follow his orders during emergencies.</li> <li>The mayor can convene monthly Emergency Committee meetings.</li> <li>The school principal is a member of the Emergency Committee and can organize activities in the school to prepare the students for future emergencies or disasters; for example, she could organize a "Disaster Preparedness Day."</li> </ul>

Based on this example, fill out the organization inventory on the following pages.

Organization (Resource)	President	Number of Members	Strengths (Capacities)

Continue on next page

Organization (Resource)	President	Number of Members	Strengths (Capacities)



2. **Education Resources and Capacities.** In this section, record all the information you can find about education in your community. Include public and private preschools, primary and high schools, technical institutes, and other educational bodies. Teachers and students have strengths that could be excellent resources during emergencies or disasters, as well as the ability to carry out activities to help combat the community's vulnerabilities.

School or Institution (Resource)	Director	Number of Teachers	Number of Students	Capacities

Continue on next page

School or Institution (Resource)	Director	Number of Teachers	Number of Students	Capacities

- 3. Health Resources (Human).** In this section, provide all the information you can about your community's human health resources. Talk to the people to find out their strengths and what they can offer during disasters and emergencies and also in DPM activities. For example, a community health worker in an outlying village may be able to organize a local, village-level emergency committee. Be sure to start at the health center to get names of all the health-related people in the town and nearby villages.

Position	Name	Residence and Place of Work	Capacities
Doctors			
Nurses			
Midwives			
Health Promoters			
Village Health Workers			
Volunteer Health Workers			
Other:			
Other:			



- 4. Medical Equipment and Supplies (Physical Resources-Health).** In this section, list all the health and medical equipment and supplies in your community. Include the health center, private clinics, pharmacies, hospitals, etc. Make note of how the resources can be used during emergencies or disasters. For example, in the health center there may be cots and stretchers, a kitchen, medicine, etc. It is important to complete this section in collaboration with the community health personnel.

Place	Equipment, Materials, and Supplies	What Can They Be Used for?
Health Center		
Pharmacy		
Others: (Specify)		



5. **Security Resources.** If your community has a police station, indicate the name of the person in charge, the number of agents, equipment (i.e. short wave radio, vehicles, arms), and the function of these resources in the event of an emergency or disaster. It is important to fill this section out in collaboration with the person in charge of the police station.

**Human Resources**

Person in charge:\_\_\_\_\_

Number of police or security agents:\_\_\_\_\_

Functions during an emergency:

**Physical Resources/ Security Equipment:**

Equipment	Functions During an Emergency or Disaster

6. **Private–Sector Resources.** In this section list all the private sector resources in your community that can be counted on during a disaster or emergency situation. Be sure to consult with the owner or person in charge to confirm their collaboration. Examples of private–sector resources include boats, cars, trucks, stores, pharmacies, places of worship, safe houses, cooperatives, etc.

Resources	Owner or Person in Charge	Function During an Emergency or Disaster

Continue on next page

Resources	Owner or Person in Charge	Function During an Emergency or Disaster

**WORKSHEET: ANALYSIS EXERCISE**

Analyze the hazards, vulnerabilities, risks, and physical and human resources and capacities.  
Sketch a map showing what you have described.



## **EMERGENCY COMMITTEE and EMERGENCY OPERATIONS CENTER**

The foundation for an adequate response to emergency and disaster situations is a well-prepared Emergency Committee and a well-functioning Emergency Operations Center.



## **EMERGENCY COMMITTEE STRUCTURE:**

President:

Vice President:

Treasurer:

Secretary:

Others:

### **Education Commission:**

Coordinator:

Members:

### **Health Commission:**

Coordinator:

Members:

### **Security Commission:**

Coordinator:

Members:

### **Logistics Commission:**

Coordinator:

Members:

### **Evacuation and Rescue Commission:**

Coordinator:

Members:



## EMERGENCY OPERATIONS CENTER

When an emergency arises, the Emergency Operations Center is the place where all the members of the Emergency Committee and the Commissions meet. This is the communications and decision-making center.

The Emergency Operations Center will be staffed by the following personnel from the Emergency Committee and other institutions:

The Emergency Operations Center will be located at:

The alternative site for the Emergency Operations Center will be:

Other important considerations:





## COMMUNITY ACTION PLAN

A good community action plan  
clearly indicates  
what needs to be done  
before, during,  
and after  
an emergency or disaster.



## COMMUNITY ACTION PLAN

A COMMUNITY ACTION PLAN indicates what your community needs to do before, during and after an emergency or disaster. We have discussed the importance of being better prepared for future disasters, and we have identified actions you can take to diminish the effects of future hazards. You have identified the resources in your communities, as well as the people, houses, crops, and other places at greatest risk. Your COMMUNITY ACTION PLAN will take into account all of this information.

On the following pages we provide some suggestions and ideas for activities that each Commission of your Emergency Committee could do as part of their DPM work. These are suggestions from Comisión Permanente de Contingencias (COPECO). Remember, these are only general ideas; we feel certain that you have many other ideas for activities that could be implemented in your communities.

Emergency Committees in larger municipalities will usually have the human resources necessary to organize themselves into the five commissions with the coordinators and members that COPECO recommends. In smaller communities, however, this system may be somewhat difficult to follow. For smaller communities, it is important to carefully analyze your needs and strengths and formulate plans that will carry out the DPM activities that your community deems necessary given the resources that are available to you. That may mean organizing your committee in a different way.

This section of the Workbook has two parts. The first part contains the suggestions for activities that each commission can carry out. The second part provides pages for you to use to create your own COMMUNITY ACTION PLAN.

**EDUCATION COMMISSION: Suggested Activities**

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"> <li>1. Write activities plan for BEFORE, DURING, and AFTER an emergency.</li> <li>2. Revise, adjust, and bring census information up to date.</li> <li>3. Inform and raise consciousness regarding the hazards which the community faces.</li> <li>4. Inform residents about what to do during emergencies.</li> <li>5. Establish means of communication between the Municipal Emergency Committee and the villages.</li> <li>6. Complete census of at-risk population.</li> <li>7. Complete community resource inventory.</li> <li>8. Select a pilot school for implementing emergency education programs.</li> <li>9. Give prevention and preparation talks to different community organizations.</li> <li>10. Coordinate municipality and villages in conducting simulations.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete census of affected population.</li> <li>2. Orient the population by any available means regarding measures to adopt during the emergency.</li> <li>3. Work with other commissions upon request.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete damage and needs assessment.</li> <li>2. Carry out rehabilitation activities at affected educational centers.</li> <li>3. Draw up list of the needs of the affected population.</li> <li>4. Work with other commissions upon request.</li> </ol>



### HEALTH COMMISSION: Suggested Activities

<b>BEFORE</b> Long– and short–term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Promote clean-up and basic sanitation campaigns.</li><li>2. Organize and train first aid brigades.</li><li>3. Train the population in water purification techniques.</li><li>4. Carry out latrine projects.</li><li>5. Promote first aid kit projects with schools and other institutions.</li><li>6. Train people to assist victims.</li><li>7. Share activity plan with the community.</li></ol>	<ol style="list-style-type: none"><li>1. Activate trained groups.</li><li>2. Keep record of physically affected population.</li><li>3. Provide medical attention to sick and injured.</li><li>4. Maintain epidemiological vigilance.</li><li>5. Coordinate with other commissions in basic hygiene in shelters.</li><li>6. Conduct vaccination campaigns.</li><li>7. Maintain sanitary control of food in shelters.</li></ol>	<ol style="list-style-type: none"><li>1. Carry out clean-up campaigns.</li><li>2. Rehabilitate Health Centers.</li><li>3. Supply first aid kits.</li><li>4. Apply sanitary control measures.</li></ol>

**LOGISTICS COMMISSION: Suggested Activities**

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Inventory available public and private transportation resources.</li><li>2. Inventory search, evacuation, and rescues resources.</li><li>3. Solicit evacuation and rescue equipment and materials.</li><li>4. Select shelters.</li><li>5. Select centers to receive and distribute aid from outside.</li></ol>	<ol style="list-style-type: none"><li>1. Distribute aid and supplies (water, medication) to shelters.</li><li>2. Transport victims and their belongings to refugee centers.</li></ol>	<ol style="list-style-type: none"><li>1. Receive and distribute on-going donations and aid.</li><li>2. Continual reporting to Emergency Committee.</li><li>3. Transfer victims back to their homes.</li><li>4. Write reports.</li></ol>

**EVACUATION AND RESCUE COMMISSION: Suggested Activities**

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Designate evacuation routes.</li><li>2. Select safe areas for shelters.</li><li>3. Inventory evacuation resources.</li><li>4. Coordinate with rescue agencies and institutions to train groups in use of appropriate techniques.</li><li>5. Participate in training and evaluation activities (simulations, drills).</li><li>6. Provide preventive maintenance to evacuation and rescue equipment.</li><li>7. Recruit and train new group members.</li></ol>	<ol style="list-style-type: none"><li>1. Evacuate people from affected areas.</li><li>2. Search and rescue operations for people that may be trapped or affected by flooding.</li><li>3. Provide first aid as needed</li></ol>	<ol style="list-style-type: none"><li>1. Work as needed with other commissions.</li><li>2. Write report.</li></ol>

**SECURITY COMMISSION: Suggested Activities**

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Write BEFORE, DURING and AFTER plans.</li><li>2. Assign functions to commission members.</li><li>3. Inventory available resources.</li><li>4. Draw up and practice emergency communication system.</li></ol>	<ol style="list-style-type: none"><li>1. Post personnel at shelters to provide security to victims and personal property.</li><li>2. Send security personnel to affected areas (homes, public and private buildings) to rescue those in need of help and ensure the continued safety of others.</li><li>3. Provide security personnel to assist search, evacuation and rescue teams, and other commissions as needed and to ensure wide-based coverage and on-going strategic intervention.</li></ol>	<ol style="list-style-type: none"><li>1. Continue to safeguard people and property.</li><li>2. Maintain law and order.</li><li>3. Train new volunteers.</li></ol>



## EDUCATION COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources





**EDUCATION COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## HEALTH COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



**HEALTH COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## LOGISTICS COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



**LOGISTICS COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## EVACUATION AND RESCUE COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## EVACUATION AND RESCUE COMMISSION

DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## SECURITY COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources





**SECURITY COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources

## **FOLLOW-UP PLAN**

What are we going to do with what we have learned  
at this workshop when we  
return to our communities?



## FOLLOW-UP PLAN

The Follow-Up Plan for each community in the Community Disaster Preparedness Workshop will outline the activities that the participants plan to carry out in their communities prior to the second workshop. For some participants, it will be the beginning of their work in prevention and preparation for future emergencies and disasters. For others, it will be carrying on with work that has already begun in their communities.

**Brainstorm: What ideas do you have for sharing...for motivating...for teaching...the people in your community about community-based disaster prevention and preparedness. Write your ideas below.**



*FOLLOW-UP PLAN FOR THE COMMUNITY OF:* \_\_\_\_\_

**REPRESENTATIVES:** \_\_\_\_\_  
\_\_\_\_\_

ACTIVITY	WITH WHOM?	WHEN?	COMMENTS

Continue on next page

COMMENTS	
WHEN?	
WITH WHOM?	
ACTIVITY	

## RESOURCES

The following Peace Corps materials are available on DPM:

***DPM PST Training Module*** (ICE number T0123)

***DPM IST Training Module*** (ICE number T0124)

***DPM Training Materials Kit*** (ICE number T0125)

**DPM: Integrating Disaster Preparedness and Mitigation In Your Work (Idea Book)** (ICE number M0084)



# **Disaster Preparedness and Mitigation (DPM):**

**An In-Service Training Module**



**Peace Corps**  
**September 2001**



Information Collection and Exchange  
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## Acknowledgments

Hurricanes Georges and Mitch in Central America and the Caribbean in 1998 underlined the importance of disaster preparedness and mitigation and the role that Peace Corps Volunteers can play in encouraging communities to better prepare for and mitigate the impact of the next disaster. In response to these disasters, Peace Corps/Haiti and Peace Corps/Honduras, with assistance from several Crisis Corps Volunteers, took the lead in developing Pre–Service Training and In–Service Training materials for their Volunteers.

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*Es Mejor Prevenir...Educación Comunitaria Para la Prevención de Desastres*, Federación Internacional de Sociedades de la Cruz Roja y de la Media Luna Roja, Abril, 1998.

This training program provided the basis for the current design, and was critical in pointing the authors in the right direction.

*Plan Comunal de Emergencia*, Comisión Nacional de Emergencia, Costa Rica.

*Plan Familiar de Emergencia*, 2da edición, Comisión Nacional de Emergencia, Costa Rica, 1994.

*Taller de Instructores del Programa Masivo de Capacitación Sobre Prevención y Manejo de Desastres Nacionales*, Comisión Permanente de Contingencias, (COPECO), Honduras.

*Mitigación de Desastres*, Programa de Entrenamiento para el Manejo de Desastre, PNUD, 1999.

*Community-Based Disaster Preparedness Training Program*, Peace Corps/Haiti, 1999.

The materials development team in Washington included Crisis Corps; Judee Blohm and Ron Savage from the Center for Field Assistance and Applied Research; and Pamela Pine from the Futures Group.

## Acronym List

APCD	Associate Peace Corps Director
CDERA	Caribbean Disaster Emergency Response Agency
CDM	comprehensive disaster management
DPM	disaster preparedness and mitigation
EAP	Emergency Action Plan
FEMA	Federal Emergency Management Agency
IST	In–Service Training
MOH	Ministry of Health
NDMC	National Drought Mitigation Center
NGO	non–governmental organization
PACA	Participatory Analysis for Community Action
PC	Peace Corps
PCV	Peace Corps Volunteer
PST	Pre–Service Training
SADC	South African Development Community
USAID	U.S. Agency for International Development



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**Participant Workbook**

# Introduction

## *Why Disaster Management Is Important*

The developing world will continue to be hardest hit by the cascading effects of climate change, environmental degradation and population pressures. Fires, droughts and floods from [the 1998] El Niño claimed 21,000 lives while the deforestation in China's Yangtze basin contributed to the flooding which affected the lives of 180 million people. In Russia, the extreme winter weather turned into a disaster when it struck a society where 44 million people are living in poverty, one million children are homeless, and tuberculosis rates are skyrocketing. This insidious combination is throwing millions more into the path of potential disaster. Already, 96 percent of all deaths from natural disasters occur in developing countries. One billion people are living in the world's unplanned shanty towns and 40 of the 50 fastest growing cities are located in earthquake zones. Another 10 million people live under constant threat of floods.

—Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). International Federation of the Red Cross and Red Crescent. "World Disasters Report Predicts a Decade of Super-Disaster." Geneva, Switzerland: International Federation of the Red Cross and Red Crescent, June 24, 1999.

Natural disasters kill one million people around the world each decade, and leave millions more homeless each year. Economic damages from natural disasters have tripled in the past 30 years—rising from \$40 billion in the 1960s to \$120 billion in the 1980s.

—U.S. Agency for International Development, Office of Foreign Disaster Assistance website ([www.info.usaid.gov/hum\\_response/ofda](http://www.info.usaid.gov/hum_response/ofda)), 2000. United Nations. "Disasters: A Deadly and Costly Toll Around the World." New York: UN, 1997.

The continued worsening effects of natural disasters, particularly on the world's poor, caused the United Nations to designate the 1990s as the International Decade for Natural Disaster Reduction. The purpose was to reduce losses caused by such phenomena as earthquakes, volcanic eruptions, landslides, tropical cyclones, floods, and droughts. Unfortunately, although some progress was made during the decade, losses resulting from disasters continue to grow as more people and structures occupy hazardous areas.

The negative consequences of disasters can be tremendous. For example, in many places in Honduras, flooding has steadily gotten worse because of deforestation and inappropriate agricultural practices. The massive rainfall accompanying Hurricane Mitch in 1998 resulted in a disaster of gigantic proportions, destroying homes, bridges, roads, and crops and flooding towns and villages in nearly the entire country. The communities had to deal with the homeless, provide medical care, ensure clean food and water, and reestablish basic services. Most communities were caught unprepared, although the ability for even the poorest community to pull together and solve their most pressing problems was impressive. Disasters in other parts of the world—Hurricane Georges in the Caribbean, the drought in the Horn of Africa (750,000 people remain affected by drought conditions in Somalia and 3.3 million in Kenya [USAID, 2000]), 1999 floods in Mozambique, and numerous disasters in Bangladesh—have similarly challenged the ability of communities to maintain public safety and avoid economic disaster. As a result, an increasing number of communities are taking disaster preparedness seriously, and would like to establish emergency plans that specify the resources available to them should future natural disasters hit.

What is disaster preparedness and mitigation (DPM) and why train Peace Corps Volunteers to address it? The Caribbean Disaster Emergency Response Agency (CDERA) provides a good working definition of comprehensive disaster management (CDM):

CDM involves all actions required to ensure that a country or jurisdiction has the capability to deal with all types of hazards, at all phases of the Disaster Management Cycle: Prevention and Mitigation, Preparedness, and Response and Recovery by coordinating wide-ranging actions and utilizing all necessary resources available from numerous agencies.

CDM is

Multifaceted in nature

Multidisciplinary in approach

Multisector in impact

Integrated by sound management principles and practices

Comprehensive in concept

—Caribbean Disaster Emergency Response Agency website ([www.cdera.org](http://www.cdera.org)), July 2000. Report from the Third Caribbean Conference on National Hazards, Barbados, October 13–15, 1999.

Peace Corps Volunteers live and work in communities that can be affected by natural disasters. Volunteers can and do make an enormous difference to the people around them in many aspects of life. They can make a difference in the area of disaster management as well.

## *Purpose, Goals, and Objectives of the In–Service Training*

The Peace Corps’ *Disaster Preparedness and Mitigation Pre–Service Training Module* provides an initial introduction. This In–Service Training (IST) module builds on the Pre–Service Training (PST) module but also provides enough background so that the IST can be used alone if Volunteers did not receive the PST. The purpose of the Peace Corps’ disaster management training is to provide Volunteers and their Counterparts with information to help them minimize their own personal risk and the risk to those around them.

This IST training module provides some duplication of information from the PST, as well as more in–depth information about the ways in which Peace Corps Volunteers and their Counterparts can be useful before, during, and after a disaster. This is purposeful; if a disaster–related PST was held, there may be a gap of up to six months between the PST and the IST, thereby necessitating a review of information. If it was not held, the information in the IST that duplicates the information in the PST will be needed. Additionally, only one type of training may be needed due, for example, to technical expertise of the Volunteers (and Counterparts), or one workshop may not be feasible due to time or logistical constraints. While the PST training module focuses on basic information, knowledge building, and safety, the IST module provides a review of that information and, also moves to a community–centered focus.

At the completion of this IST disaster management module, Volunteers will be able to prepare themselves for most eventualities and accomplish the central goals of Peace Corps’ training in disaster management, which are to increase participants’ abilities to:

1. Maintain their own safety and security during emergency and disaster situations; and
2. Help communities to develop comprehensive preparedness plans, institute mitigation measures, and increase their capacity to cope with disaster situations.

The overall objectives of the IST disaster management module are to:

1. Raise the consciousness of workshop participants about the importance of disaster preparation and mitigation; and
2. Reduce the vulnerability of participant communities and lessen the impact of natural disasters through training community leaders and Peace Corps Volunteers in community disaster preparedness.

Part One of this module aims to:

1. Help Volunteers review issues and information presented during the PST disaster management training module, or incorporate new background information on disaster management if they did not participate in a disaster management PST; and
2. Increase knowledge about working with and through community involvement.

Part Two of this module aims to:

1. Provide participants with a more in–depth understanding of community disaster–related activities; and
2. Give participants the skills they need to assist in disaster management planning within their communities.

## *Who Is This Module For?*

This training is designed to provide participants with information that they can use during their service to help protect themselves and others. These training modules are for Volunteers and their Counterparts in all Peace Corps sectors: health workers, agricultural extensionists, teachers and others.

The module is presented in such a way that Peace Corps trainers with general or technical backgrounds (whether in environment, agriculture, education, or community development sectors), can be trained to conduct the workshop and present the information. Some trainers will use all or most of these exercises and others will use only selected parts. In either case, trainers will probably want to supplement sessions from the module with additional information and/or sessions of their own.

The materials can be used with any Volunteer group (the primary audience) that Peace Corps staff believes it is important to reach with this information. For example, there may be more need in some countries based on the host country's history of disasters. This is true whether the participant group has a technical or generalist background, or whether the group is made up of individuals with varied backgrounds. Additionally, Counterparts, who may take part in ISTs, will gain valuable knowledge and be able to address the needs of their communities. Throughout the training module, individuals taking part in the training are referred to as participants rather than Volunteers because of the likelihood of this dual audience. Finally, the broader public communities served by Peace Corps will benefit from this training.

## *How To Use This Training Module*

Trainers can use this module in different ways, depending on a variety of factors, including:

- The background of the participants
- The particular jobs of the participants



- The trainer's own background and experience
- The stage Volunteers are in during their service
- The level of awareness of the target population

The entire module may comprise an IST or you may use only parts of the module and combine it with additional materials. Experienced trainers may prefer to use some of their own training materials to cover certain topics in the module, as well as topics that are not addressed.

You may be able to use some exercises as they are designed, with little or no adaptation. For others, you may want to cover the topics addressed with changes to the exercises. The goal is to address as many of the key topics as are useful to the participants.

## *How Is the IST Module Organized?*

This module consists of four sections:

1. The Trainer's Guide.
2. Part One: Disaster Preparedness and Mitigation.
3. Part Two: The Role of the Volunteer in Disaster Preparedness and Mitigation.
4. The Appendices: Background and Reference Material.

Generally, this module is intended to achieve a balance between the technical and practical aspects of disaster management. Part One provides an overview of basic information regarding terminology, historical events, theoretical information, and background information. Part Two provides the participants a chance to practice newly taught skills in the classroom and in the field. The materials are organized so that earlier sessions prepare participants for subsequent ones. Both sessions make use of the exercises in the accompanying Workbook, which includes practical exercises that help participants gain the skills they need to provide assistance in community DPM. The Appendices contains supporting information for participants as they learn about and become involved in DPM activities.

## *Content of the Module: An Overview*

### **The Trainer's Guide**

The Trainer's Guide contains an overview of the module, including the purpose, how it is designed, and the audience. It provides a brief synopsis of each section's content, and notes on delivering the sessions.

### **Part One: Disaster Preparedness and Mitigation**

Part One provides an overview of disaster management, with a focus on addressing the needs of communities. The sessions in Part One provide participants with fundamental information about disasters and how to respond to them, and allows the participants to call on information familiar to them to better understand the conditions in their host country and communities. The exercises in Part One help participants identify what is important in helping them provide for their own and their communities' safety, plan for emergencies, respond appropriately should a natural disaster occur, and minimize human disaster. The trainer should feel free to supplement the information in the training module by speakers and audiovisual presentations.





## Part Two: Community Disaster Preparedness Follow–Up

This section provides participants a chance to sharpen community planning and activity skills. It also strengthens the participants' abilities to play important and active roles in their communities in the area of DPM.

### The Participant Workbook

The Participant Workbook provides a means by which participants can structure their learning about community preparedness and practice their new skills. Parts One and Two of the training refer the participants to exercises and skill–building activities in the Workbook.

### The Appendices

The Appendices provide a number of supplemental and reference materials that may be useful to the participants during and after the training.

### Notes on Delivering These Sessions

Trainers should read each session, which contains trainer notes and participant handouts. Advance reading will help you to determine what information is relevant. It will also help you decide if you need to make changes or if you can deliver the session as it is written.

Some or all sessions may need to be amended to suit the specific needs of a particular IST. Changes should be made as part of preparation. These changes might need to be made in response to:

- Prior background and skill level of the training group
- Type of work participants are doing
- Amount of training time available
- Other training sessions that may have covered similar topics
- Circumstances in the community or country, including history of natural disasters
- Nature and availability of training staff and other resources

Each session includes the following components:

<b>OVERVIEW</b>	A description of the key content of the session and its importance. Include some or all of the information in the overview and objectives as you introduce the session in Step 1 of your delivery.
<b>OBJECTIVES</b>	Two or three brief statements describing what participants should be able to do after the session.
<b>TIME</b>	The times given are approximate. Trainers should read through the steps and estimate the amount of time they need for each one, given the circumstances. For example, if Counterparts are present and second languages are being used, sessions will take longer.
<b>MATERIALS</b>	Materials necessary for the sessions are listed. Handouts listed in this section are found at the end of the session.

<b>STAFF</b>	This heading is only found if resource people, such as Ministry of Health (MOH) or other country officials, Peace Corps Volunteers or staff, or other training personnel, are needed to conduct the session.
<b>PREPARATION</b>	Any special preparation needed before the session.
<b>DELIVERY</b>	<p><b>Step 1</b> provides the purposes of the session and the rationale behind participation in the training. Participants should see how the particular knowledge or skill the session teaches is something they need to know. Relate the exercise to earlier and later sessions in the training.</p> <p><b>Remaining Steps:</b> Read through the steps to understand the flow of the activity. Try to anticipate any problems or questions that might come up at each stage. Eliminate or add some steps as appropriate.</p>
<b>CLOSING:</b>	At the end of each session, use some method to reiterate the important ideas.
<b>RESOURCES</b>	Publications or other materials that might be helpful to you in preparing the session.



Sessions	Est. Time
<b>Part One: Disaster Preparedness and Mitigation</b>	
DAY ONE Travel to Workshop Site Registration for Training	
DAY TWO Session 1: Welcome, Introductions, and Expectations Session 2: Learning About and Sharing Reactions During Disasters Session 3: Disasters and Their Effects (a) Session 4: Disasters and Their Effects (b) Session 5: Our Communities Session 6: Hazards and Risks in Our Communities Session 7: Resources and Strengths in Our Communities Session 8: Mapping Session 9: The Good Facilitator	
DAY THREE Session 10: Analysis Exercise Session 11: Family Preparedness Plans Session 12: Formal In-Country Disaster Agencies and Organizations Session 13: Community Disaster Preparedness Plan (a): Before Session 14: Community Disaster Preparedness Plan (b): During Session 15: Follow-Up Plan Session 16: Closing and Evaluation	
DAY FOUR Return Travel	
<b>Part Two: Community Disaster Preparedness Follow-Up Workshop</b> (One Day)	
Session 1: Preparation for Achievements, Activities, and Obstacles Session 2: Review Of Basic Concepts Session 3: Achievements, Activities, and Obstacles Session 4: Community Activities Session 5: Resources Session 6: Community Emergency Action Plan Session 7: Follow-Up Plan	

At the completion of the IST, participants should have developed a basic knowledge of community disaster preparedness and the ability to better react to potentially dangerous situations. They will have information that they need to protect themselves and to lessen the likelihood of disaster. They will have developed skills to help their communities identify their own strengths and weaknesses with regard to the ability of community members to protect themselves in the face of a natural disaster. Finally, they will be able to help guide a process which responds to the needs and resources of their particular community.

## **Part One:**

# **Disaster Preparedness and Mitigation**

### *Introduction*

Part One introduces the principal aspects of community disaster preparedness. It also examines the various types of responses that can occur.

### *Summary of Sessions*

The 16 sessions in Part One review basic information on disasters and disaster management, and build skills in the area of planning, networking, identifying resources, community mapping, and community organizing.

### *When Should These Sessions Be Conducted?*

Determination of when to provide technical DPM training will depend upon the country and the likelihood of natural hazards (the need), the makeup of the participant group, and the logistical realities in the host country. In countries in which the likelihood of a natural disaster is high, the subject is both more pressing as well as more likely to generate high interest than in countries where the likelihood of a natural disaster is low. It will be up to the country Peace Corps director and/or appropriate associate Peace Corps directors (APCDs), to determine when to conduct this In-Service Training. The best time is probably six to 12 months after the beginning of service.



## Session 1:

# Welcome, Introductions, and Expectations

### Overview

This session allows participants to get to know each other. If participants have been working together or living near each other and they already know each other fairly well, you may want to skip this session or shorten it. If, on the other hand, the participants do not know each other, as may be the case if Counterparts attend with Volunteers, this session can help to build a sense of familiarity and make them feel more comfortable with one another.

### Objectives

By the end of the session, the participants will have:

1. Established a productive and open learning environment for participants and trainers.
2. Met and/or gotten to know each other better.
3. Identified their expectations of the workshop.

### Time

1.5 hours

### Materials

Handouts

- *Pre-Test*
- *True/False Questionnaire* (optional)
- *The Disaster Cycle*

Other materials to distribute, as necessary

- Box of matches
- Blank flip chart
- Markers
- Slide projector, computer, overhead projector, as available and appropriate to speaker's needs

### Staff

The appropriate APCD or a special speaker should participate at the beginning of the session to emphasize the importance of the topic due to the country's potential hazards and vulnerabilities. The speaker should be selected based on his or her experience or familiarity with both natural hazards and vulnerabilities to disaster in-country. This speaker also can make the connection between the country's need and the Peace Corps' involvement. Such an introduction will be especially important in countries in which no major natural disaster has happened in recent memory.

## Preparation

The trainer should meet with the APCD (or speaker) in advance to review the goals and objectives of the session and to provide an overview of the training program. The trainer should inform the speaker about the general backgrounds and educational levels of the Volunteers, provide the speaker with suggestions on information that should be discussed with the Volunteers, and inform the speaker about the types of questions Volunteers may ask. The trainer should also ensure that the speaker includes visual aids that can accompany the descriptive information that will be provided about the types of hazards that occur in the host country. The trainer should find out if the speaker is considering the use of any electronic audiovisual equipment and make necessary arrangements for the equipment and its use. (If needed resources cannot be guaranteed, the trainer should inform the speaker and request that other kinds of visuals be used instead). Finally, the trainer should discuss with the presenter the amount of time needed/available for the presentation (approximately 10 to 15 minutes).

As part of the introduction to this session, the trainer and/or guest speaker may wish to engage the Volunteers in completing a true/false questionnaire concerning the general state of disasters in the world. The trainer and/or speaker can change or add statements to the questionnaire to make it more appropriate to the level of the Volunteer.

## Delivery

### Step 1. Welcome

- a. Welcome the participants to the workshop. Take a few minutes to introduce any trainers who are new to the group (including yourself, if applicable) and any other individuals involved in this part of the program. To make it as appropriate for them as possible, the trainer should share some specific, personal hazard–related experience.
- b. Give a brief overview of the workshop’s focus and note that some parts of the workshop may be a review for some of them. Let them know that, after a few initial words from the APCD or guest speaker, they will begin with a few brainstorming sessions to set the focus of the workshop.
- c. Take care of housekeeping details (i.e., reimbursements) and ask if there are any problems or concerns with lodging or other logistics.
- d. Introduce and distribute the *Pre–Test*. If the participants have not gone through DPM in their PST, it may be helpful to distribute the *True/False Questionnaire* and have Volunteers complete it. The guest speaker should reveal the following answers to the questions as part of the presentation: question 1 = false; questions 2 to 6 = true. More complete answers to questions 1 to 3 can be found in Heiberg (from the FEMA website, 1999); more complete answers to questions 4 to 6 can be found in United Nations (from the USAID/OFDA website, 1997). Both complete references can be found in Appendix 4: *Resources and Reference Materials*. Note that the *Pre–Test* is not really a test but is designed to help the participants identify what they know and do not know and recognize what they have learned. Let them know that the *Pre–Test* includes a number on the upper right hand corner only and no names need be added. When collected, the *Pre–Tests* will be used for training evaluation and improvement purposes.

and then made available to the participants. Tell the participants to mark a “V” for Volunteer or “C” for Counterpart next to the number on the page and remember their numbers. Give the participants a few minutes to fill out the *Pre-Tests*.

### **Step 2. Guest Presentation**

Ask the APCD or guest speaker to make his or her presentation.

### **Step 3. Introductions**

- a. Invite the group to come up with ideas about what they would like to know about someone when they meet them for the first time. Write the responses on the flip chart, e.g., name, age, where they come from, what they do, marital status, do they have children and how many, what they like to do in their free time.
- b. Ask each person to pick a partner with whom to have a “getting to know you” chat. Ask them to pick someone they do not know, and let them know that the trainer(s) should be considered a part of the exercise. Tell participants to spend the next 10 minutes talking with each other, exchanging information based on the items written on the flip chart.
- c. Ask the group to form a circle, with partners standing next to each other. Pass around a box of wooden matches, and ask each person to take a match. They will have to introduce their partner in the time it takes for the match to burn, selecting what they think is especially important or interesting about their partner. Ask if there are any questions.
- d. The trainer should go first and introduce his or her partner. The trainer should then ask his or her partner to light their match and introduce the trainer. The participants continue in this way around the circle until each participant has introduced their partner.
- e. After everyone has been introduced, thank them for their involvement in the activity, commenting that it was intended to help them get to know each other so that everyone feels comfortable expressing themselves.

### **Step 4. Ground Rules or Group Norms**

- a. Ask the participants to break into groups of five to brainstorm what they think are important ground rules for the workshop (e.g., attentiveness while others are speaking); provide a flip chart for each group. Tell them they have 10 minutes to discuss, pick a presenter, and re-form into the larger group.
- b. After 10 minutes, call the entire group back together. Have the presenters describe the guidelines on their group’s flip chart.
- c. From the groups’ lists, have the participants select four key guidelines. Ask if they all agree with these four guidelines. Revise if necessary.
- d. Make the transition to the next activity by telling the participants that the group norms will be applied to all workshop activities and are important to the next part of this session: identifying the expectations of the training.



**Step 5. Expectations**

- a. Tell the participants that their expectations are important in helping you gear the training to their needs.
- b. Discuss what knowledge and skills they want to be able to apply to their communities after the workshop.
- c. Compare these to the formal workshop objectives and discuss their relationship.  
The overall objectives of the IST disaster management module are to:
  1. Raise the consciousness of workshop participants about the importance of disaster preparation and mitigation.
  2. Reduce the vulnerability of participant communities and lessen the impact of natural disasters through training community leaders and Peace Corps Volunteers in community disaster preparedness.

## *Handout*

## *Pre-Test*

**Participant # \_\_\_\_\_**

1. How do you think Peace Corps Volunteers can help communities better prepare for and minimize the impact of (a hurricane, earthquake, drought, etc. Choice/s should be country-dependent)?
2. Define the following terms:
  - a. Hazard –
  - b. Disaster –
  - c. Emergency –
  - d. Vulnerability –
3. Typically, there are actions that one can take BEFORE, DURING, and AFTER a natural disaster. Please identify some activities in each category:  
  
Before:     a)  
              b)  
  
During:     a)  
              b)  
  
After:       a)  
              b)
4. What is a community risk analysis?
5. Identify some activities that might be included in a community risk analysis in \_\_\_\_\_ (name of country).



*Handout*

*True/False Questionnaire on the  
General State of Disasters in the World*

1. The entire world is hit just about equally in terms of the damage caused by natural disasters. T/F
  
2. Fires, droughts, and floods from the 1998 El Niño claimed more than 20,000 lives. T/F
  
3. Forty to 50 of the fastest growing cities worldwide are located in earthquake zones. T/F
  
4. Natural disasters kill more than 1 million people around the world each decade. T/F
  
5. Economic damages from natural disasters cost more than \$100 billion in the 1990s. T/F
  
6. In many places in the world, long-term suffering from disease and hunger has increased as a result of individual disasters. T/F



## Handout

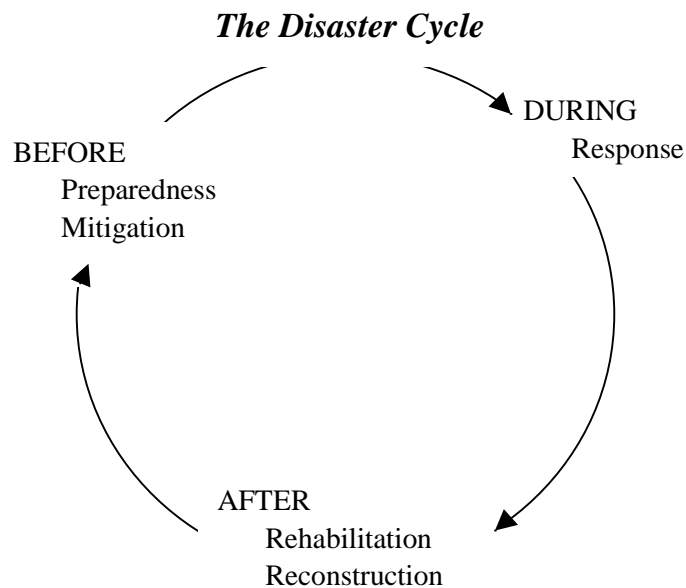
# The Disaster Cycle

Disaster experts tell us that the response to disasters can be conceptualized as a cycle with three phases, BEFORE, DURING and AFTER.

The BEFORE phase is that period of time before a disaster hits, including the time when a warning and/or alert is announced, during which preparation and mitigation activities may take place, with the objective of decreasing people's vulnerability and reducing the negative impacts of disasters. Mitigation activities include actions that, in the long term, will lessen the magnitude of effects of hazards. This might include improved housing construction or reforestation of watersheds. Preparation includes such activities as stockpiling food and water or carrying out a simulation at the community level.

The DURING phase is that period of time during which lives and livelihoods are at risk and lasts until the danger is over.

The AFTER phase is the rehabilitation and reconstruction phase, after the immediate danger is past, when people and communities put their lives, livelihoods, and homes back together.



## Session 2:

# Learning About and Sharing Reactions During Disasters

### Overview

In this session, participants learn about typical reactions in disaster situations and are invited to share any experiences that they have with disasters. The information draws on written materials (provided in the *Disaster Preparedness and Mitigation PST Module*) and repeated in Appendix 1: *Common Psychosocial Responses to Disasters*. After reviewing the types of reactions that are likely during a disaster, participants share personal experiences.

### Objectives

By the end of the session, the participants will have:

1. An understanding of some of the likely reactions during a disaster.
2. An idea of the coping mechanisms that can help people in the event of a disaster.
3. A validation of the knowledge and experience of participants who have been directly effected by disasters.
4. An understanding of the Disaster Cycle.

### Time

1 hour

### Materials

Participant Workbook

Pens, pencils

Flip chart

Markers

Handout

- *Common Psychosocial Responses to Disaster*

Flip chart:

- Small Group Tasks

### Staff

It would be helpful to have a staff person or other authority present who has been in a hazardous situation. That person may be able to provide comfort to those participating in the visual imaging part of the session, as well as provide perspective on reactions to disasters. If such a person participates in this session, they should be introduced at the beginning of the session. A second person—a co-facilitator or assistant—will be needed during this session to assist with recording information.

## Preparation

The trainer should be prepared to ensure a sensitive approach to reactions of participants who have experienced disasters, particularly recent ones, either in the U.S. or elsewhere. If participants have experienced a disaster, they still may be traumatized. Before this session, trainers should know from the *Pre-Tests* which participants have experienced a disaster. In Step 3, the trainer should emphasize that people who have been through a disaster may not want to participate in the visual imaging exercise. The trainer should also look for any signs of stress (e.g., crying or facial expressions indicating extreme concern) in those who have experienced a disaster and decide to participate in the exercise. If that is noted, the trainer should quietly approach the person and ask them if they feel they would like to continue with the exercise. It is also important to check with participants at the close of the session to see that they are all right.

Additionally, the trainer should review the list from Appendix 1: *Common Psychosocial Responses to Disasters*, identify whether all or part of the information is needed for this exercise, and present a shorter or tailored version of the information, as needed.

## Delivery

### Step 1. Overview

Review the session objectives with participants. Emphasize the opportunity that participants will have to share their experiences, and that this sharing will help everyone learn.

### Step 2. Common Psychosocial Response

Distribute and review *Common Psychosocial Responses to Disaster*. Give the participants time to read it.

### Step 3. Guided Visualization

- a. Tell the participants that you are going to ask them to close their eyes in a moment and, for the next five minutes, imagine that they are experiencing a country–appropriate disaster. Tell the participants you realize that some of them might have experienced disasters, and tell them that if they find this exercise painful or stressful, they do not have to participate. Tell them they can get a drink of water or quietly sit in their places.
- b. Ask the participants to close their eyes and recall a natural disaster they experienced. Ask participants leading questions about their experiences: What is happening around you? (PAUSE) What is the scenery? (PAUSE) Who is there? (PAUSE) What are people doing? (PAUSE) What are you feeling? (PAUSE) What do you do? (PAUSE) How is the situation resolved? (PAUSE)
- c. Ask participants to open their eyes when they are ready. Suggest they take a deep breath and relax. Tell them that they will have an opportunity to share whatever they wish. They do not need to say anything that makes them uncomfortable. Record their reactions on the flip chart. Ask them then to identify (in order):
  - The scene and what was happening around them (e.g., panic, buildings collapsing)
  - Who was there
  - What people were doing
  - What they felt (e.g., panic, fear, confusion)

- What they did (e.g., ran, screamed)
- How the situation was resolved.

#### Step 4. Common Reactions

- a. A common reaction in a dangerous and frightening situation is to save oneself, which often causes a flight response, although this might not always be the safest reaction. Knowing how to be safe can help reduce both the fright and putting one self in more danger.
- b. Help the participants identify what the safest reactions might have been to the particular disasters they visualized. Tell them that later sessions will focus specifically on how to reduce the danger to themselves and others. Ask how they felt about the exercise and whether it helped them to identify the kinds of psychosocial issues they might have to deal with, in themselves and those around them. Afterwards, give the participants time to record their thoughts on pages 3 and 4 of their Workbooks.

#### Step 5. Dramatization of “Before, During, After”

- a. Distribute the *Disaster Cycle* handout and explain that they will have an opportunity to consider actions before, during, and after natural disasters. Have them agree to work on a particular type of disaster, such as a hurricane.
- b. Reveal the flip chart with the task of each group.
  1. Group 1 is to prepare a three to five minute dramatization depicting experiences group members had in common immediately before a disaster arrived in their communities.
  2. Group 2 is to prepare a three to five minute dramatization depicting the effects and damages experienced during the emergency phase of the same disaster.
  3. Group 3 is to prepare a three to five minute dramatization depicting actions taken after the disaster in the different communities.
- c. Divide participants into three groups. Ask them to take 15 minutes to prepare.
- d. Ask each group to present its dramatization. After each one, help group members identify the most important points brought out by the presentation. List relevant points on a flip chart that address BEFORE, DURING THE ALERT/EMERGENCY, and AFTER activities. In addition, make a list on a flip chart, entitled DAMAGES AND LOSSES, based on the presentations.

#### Step 6. Summary

End the session by asking the participants for their opinion of using dramatizations to share their experiences. If answers are not forthcoming or if participants do not address how their thoughts, feelings, or attitudes may have been affected by the exercise, probe these issues by asking if anyone’s attitudes changed about what is ‘right’ or ‘wrong’ or ‘good’ or ‘bad’ to feel or do during an emergency. Ask them what they learned from these presentations and whether they have a better understanding about how to prepare for and behave safely during a natural disaster.

## Resources

The following resources may be helpful for this session.

Anderson, M.B., and Woodrow, P.J. *Rising From the Ashes: Development Strategies in Times of Disaster*. Boulder, CO: Lynne Rienner Publishers, Inc., 1998. (ICE number CD056)

National Institutes of Health. "Disaster Work and Mental Health: Prevention and Control of Stress Among Workers." Bethesda, MD: NIH, 1983.





## Session 3:

### *Disasters and their Effects (a)*

#### Overview

This session reviews or introduces information that was provided in the *Disaster Preparedness and Mitigation PST Module* Part One, Session 2: **An Overview of Disaster Preparation and Mitigation** and Session 3: **Volunteer Safety and Security**. If they did not have the training in PST, it will introduce the topics helping the participants define a disaster and identify the actions they can take to reduce the effects of disasters. The previous sessions may be useful in preparing for or supplementing the information presented here by providing a base of information from which to draw.

#### Objectives

By the end of the session, participants will be able to:

1. Define the term “disaster.”
2. Identify natural and human-induced events that the communities where they live face.
3. Identify actions to take to reduce the damaging effects of possible future disasters.

#### Time

30 minutes

#### Materials

Handout

- *Definitions*
- *Word Probes and Definitions*
- Emergency Action Plan (EAP)
- Workbooks

Flip charts from previous session

- Before the Emergency
- During the Emergency
- After the Emergency
- Damages and Losses

Prepared flip charts

- Events that Can Cause Disasters  
possible examples include:
  - Floods
  - Wild Fires or Forest Fires
  - Mudslides or Landslides
  - Earthquakes
  - Droughts
  - Pesticide Spills

- “What can we do today to reduce the future effects of...” and one country–appropriate disaster listed on it (e.g., if in Honduras, an appropriate flip chart heading would be “Hurricanes”).

Pens and pencils

Blank flip chart, markers

## Preparation

The trainer should review *Disaster Preparedness and Mitigation PST Module* Part One, Session 2: **An Overview of Disaster Preparation and Mitigation**, and Session 3: **Volunteer Safety and Security** for any pertinent information.

## Delivery

### Step 1. Definitions

Ask the participants to define a disaster; write down their responses. A disaster includes *human* damage and losses caused by the specific conditions of the hazard, such as winds, rain, or floods. Also note that an important characteristic of a disaster is that it exceeds the ability of the affected population to cope using their own resources. Help participants understand the difference between a hazard, a disaster, a vulnerability, and an emergency by distributing and reviewing the handout *Word Probes and Definitions*, using the Trainers Guide to Words and Definitions for various probes. Ask if there are any questions.

### ***Word Probes and Definitions***

#### **HAZARD**

##### PROBES

- What hazards are we most likely to encounter in our host country?
- Did you face any of these hazards where you lived in the United States?
- Do all hazards cause human disasters? Why or why not?
- Can natural hazards or disasters be prevented? (*Not with our current knowledge—perhaps in the future*)  
(*The key is that the event takes place in an area of human settlement.*)

DEFINITION: A natural phenomenon or event that may cause physical damage or economic loss or may threaten human life and well-being if it occurs in an area of human settlement. A hazard can cause catastrophic events in places where there is no human settlement, such as when a forest fire destroys a national park.

#### **DISASTER**

##### PROBES

- How should a disaster be defined, that is, how is it different from a hazard? (*Human consequences*)
- In the face of a lack of preventive methods, what can be done? (*Ensure long-term planning.*)

*Continued*

- What can be gained with long–term planning? (*Reduction of loss of life, livelihood, and property*)

DEFINITION: A serious disruption causing loss of life and property that exceeds the ability of the affected society to cope using its own resources. This is a catastrophic situation where normal life is severely affected.

## **VULNERABILITY**

### **PROBES**

- What physical conditions place people at greater/lesser risk? (*roads, buildings*)
- What medical conditions? (*disability, mobility, blindness*)
- What social or cultural conditions? (*elderly, monolingual households, women versus men, children*)
- What economic conditions? (*insurance, etc.*)

DEFINITION: Susceptibility to the negative consequences resulting from a natural disaster. The many types of vulnerability include physical or material vulnerability (housing, infrastructure), social/organizational (social inequality, institutional capacity), and motivational/attitudinal (“can–do” attitude versus fatalism).

## **RISK**

DEFINITION: In disaster management, risk is defined as hazard + vulnerability = risk.

## **EMERGENCY**

### **PROBES**

- If you live in [a relevant geographic area], what is a hazard you face every year? (*e.g., hurricanes*)
- When is the emergency phase of a (hazard)? (*When it is approaching and touches land*)
- When is the emergency phase of a (hazard)? (*When it is approaching and touches land*)
- When is a hurricane that touches land in [a relevant geographic area] a disaster? (*When lives and property are lost, when the power goes out, when water and phone lines are destroyed, etc.*)
- If that hurricane had gone back to sea before touching land and just wound itself down without causing any damage, would it have been a disaster? (*No*)
- Even though this time the hurricane did not hit land, was there still an emergency? (*An emergency situation existed during the period of time that it was predicted tht the hurricane would touch land.*)
- What kinds of activities were going on in [a relative geographic area] at that time? (*Evacuating people, securing buildings, stockpiling food, etc.*)

DEFINITION: The phase of the disaster during which lives and/or livelihoods are at risk and if action is not taken, lives will be lost.

### Step 2. Local Hazards

- a. Ask the participants to name some of the natural or artificial (human–induced) events that may cause disasters in the country’s communities. Write the responses on the flip chart headed Events That Can Cause Disasters (hurricanes, flooding, forest fires, earthquakes, drought, slash and burn agriculture, landslides).
- b. Ask them to open their Workbooks to page 5 and write down what they think is important to know about disasters.

### Step 3. Activities During Emergencies

- a. Review the kinds of activities that take place during emergencies by posting the ALERT/DURING THE EMERGENCY flip chart created in the last session:
  - Looked for shelter
  - Evacuated neighbors who were in danger
  - Took care of the sick and injured
  - Tried to fix things like water, power and sewage systems, roads, and bridges
- b. Ask participants what they think is the likelihood of communities receiving outside help during the initial hours and days following a disaster. Discuss why help is not likely—takes time to assess what needs to be done; takes time to get assistance, particularly in isolated areas; assistance efforts often follow a prioritized action plan (e.g., the most severely damaged coastal areas may be a first priority and assistance to other areas may be delayed.)
- c. Stress that there are many resources in communities and that people naturally defend themselves against attack, whether by nature or human, and are often highly successful. But they can be more so.

### Step 4. Mitigation Activities

- a. As a final activity, divide the large group up into five groups, providing each group with a prepared flip chart that has the following heading and a list of hazards:

What can we do today to reduce the future effects of

- Floods?
- Wild fires?
- Mudslides?
- Earthquakes?
- Droughts?

Assign each group a different hazard and ask each group to discuss the actions it could take now with their families and communities to reduce the future effects of the particular hazard, should it occur. Tell the participants that an important reference for them is the Emergency Action Plan, and distribute it if they have not already received one during other parts of their training.

- b. Give them 15 minutes to work.
- c. Tell them they will have an opportunity to share their work in the next session.

### Step 5. Summary

Ask the participants to review the information on the flip charts around the room and ask for a volunteer to present a summary of the session in three sentences or less. See if the other participants agree or whether they think that one or more ideas need to be added to the summary.



## *Handout*

# *Definitions*

### ***Definitions***

#### **HAZARD**

A natural phenomenon or event that may cause physical damage or economic loss or may threaten human life and well-being if it occurs in an area of human settlement. A hazard can cause catastrophic events in places where there is no human settlement, such as when a forest fire destroys a national park.

#### **DISASTER**

A serious disruption causing loss of life and property that exceeds the ability of the affected society to cope using its own resources. This is a catastrophic situation where normal life is severely affected.

#### **VULNERABILITY**

Susceptibility to the negative consequences resulting from a natural disaster. The many types of vulnerability include physical or material vulnerability (housing, infrastructure), social/organizational (social inequality, institutional capacity), and motivational/attitudinal (“can-do” attitude versus fatalism).

#### **RISK**

In disaster management, risk is defined as  $\text{hazard} + \text{vulnerability} = \text{risk}$ .

#### **EMERGENCY**

The phase of the disaster during which lives and/or livelihoods are at risk and if action is not taken, lives will be lost.

## *Session 4:*

### *Disasters and their Effects (b)*

#### **Overview**

This session helps the participants recognize the importance of community involvement and planning and what can be done with the involvement of the community to reduce the negative impact of hazards.

#### **Objectives**

By the end of the session, participants will be able to:

1. Identify actions to reduce the negative impact of hazards.
2. Emphasize the importance of the community as the first and often only resource during emergencies.
3. Identify available community resources.
4. Demonstrate the importance of pre–planning in emergency situations.

#### **Time**

30 minutes

#### **Materials**

Participant Workbook

Prepared flip chart

- Activities to Reduce Damages and Losses

List of participants

Large, lightweight ball

A pillow or large drawing labeled FOX

A pillow or large drawing labeled HEN

A pillow or large drawing labeled CORN

Pens or pencils

Flip chart and markers

#### **Delivery**

##### **Step 1. Reducing Vulnerability**

- a. Tell the participants that the next activities will focus on ways to reduce the vulnerability of the communities in which they live. Tell them that you would like to provide an innovative way, first, for them to report on the work they did before breaking for lunch.

- b. Ask each group to stand together. Let them know that each group is now a team. Tell them that, as the ball is thrown to each team, that a team member from that team is to provide one answer to the following question:

- What can we do today to reduce damages and losses in future disasters?

Do a practice run. As the game is played, a volunteer aide in each group should list the responses on a blank flip chart. After the game is played, ask the full group to come back together and identify—while you write on the prepared flip chart, the activities that:

- Can be carried out in the short- and long-terms
- Involve individuals, families, and communities
- Can be carried out by the community members, without outside assistance

### ***Activities To Reduce Damages and Losses***

Activities that can be carried out in the short term.

Activities that can be carried out in the long term.

Activities that involve individuals.

Activities that involve families.

Activities that involve communities.

Activities that can be carried out by the community without outside assistance.

- c. Conclude the exercise by saying that there are many activities that communities can undertake without outside help to reduce hazard vulnerability. Post the flip chart lists completed by each group and recommend that the participants record the lists in their Workbooks or notebooks.

### **Step 3. Moving Needed Resources**

Tell the participants that the next exercise will help them to consider a key issue for their work in disaster management. Ask them to form two lines, with each individual facing someone else. Give them the following instructions:

- They are at a rope bridge.
- At one end of the bridge is a village that was isolated as a result of landslides on all the roads leading in and out of the village.
- Several days have passed since the landslides and villagers are running low on food.
- At the other end of the bridge is another village that wants to help, but the only connection between the two towns is the rope bridge, which is very weak.
- The community that wants to help has collected food for the neighboring community, but they also must work within the constraints of mitigating factors represented by a chicken and a fox (show the pillows or drawings labeled CORN, FOX, and HEN).



- The goal of this activity is to take the food to the needy community. There is, however, one problem. The bridge is so weak that it can only support the weight of one person with one sack of food at a time.

Ask the participants to work with their partner across from them for the next few minutes to figure out how to get the food to the needy village. Ask for sets of volunteers who think that they have the solution to the problem. Tell them that they will have a chance to take the food across the bridge. However, do *not* let them know that the order in which the sacks are taken to the neighboring village is the key. (See the solution below.)

***Solution: Getting Food to the Village***

1. First, take the hen across the bridge. In this way, the fox is left with the corn, and foxes do not eat corn.
2. Second, walk back to the other side and pick up the corn, take it across the bridge, but as soon as you get to the other side, put down the corn and pick up the hen and carry it back across. In this way, the corn is not left alone with the hen, which would surely eat the corn, if left to her own devices.
3. Walk back carrying the hen with you, leave the hen, pick up the fox and take it across, once again leaving the fox and the corn together.
4. Finally, walk back, pick up the hen and take it across the bridge. The task is now accomplished and the participant is there to make sure that the fox does not eat the hen and the hen does not eat the corn.

Participants will likely try different approaches. Each time they make a mistake, send the food back to the other side, saying “Sorry, it won’t work that way.” If the participants are having a hard time, begin giving clues, such as: “But if you take the corn first, and leave the hen and the fox alone on the other side, what might the fox do to the hen?” Eventually someone will figure out the solution. Afterwards, emphasize the point of the exercise. Planning and preparation are key ingredients for any program.

## Resources

The following specific resources may be helpful to this session.

FEMA website: [www.fema.gov](http://www.fema.gov)

CDERA website: [www.cderra.org](http://www.cderra.org)

## Session 5:

# Our Communities

### Overview

This session reviews information provided in the *Disaster Preparedness and Mitigation PST Module*. It helps participants understand the importance of community risk analysis mapping and introduces or builds on the skills they need to develop an appropriate map.

### Objectives

By the end of the session, the participants will be able to:

1. Identify important reasons for having a community risk analysis map, and elements that should be included in the map.
2. Begin drawing a community map for each of the communities represented at the workshop, one that graphically represents the community, its infrastructure, its vulnerabilities and its resources, as related to the hazards it faces

### Time

45 minutes

### Materials

Participant Workbook

Flip chart:

- “What is in Our Communities?” listing a few examples from the box below

Streets	Schools	Telephone offices	Crops
Paths	Health clinics	Post offices	Cemeteries
Routes	Wells	Electric/water plants	Bakeries
Houses	Marketplaces	Rivers and or lakes	Bus depots
Churches	Hospitals	Playing fields	Offices/other building

- Analysis and Mapping Decision Tree
- Sample community maps gathered from Peace Corps or in-country before the session begins

Pencils, erasers, and rulers

Bag (or hat) with the names of all the participants on slips of paper

Flip chart and markers

## Preparation

This session includes some information presented in Part Two, Session 2: **Community Risk Analysis and Mapping** of the *Disaster Preparedness and Mitigation PST Module*. The trainer should review that material and adapt or use other information as appropriate.

As appropriate, community risk and resource mapping could be integrated with the local watershed training if participants will also be focusing on that subject. In that case, the links and relationships between the condition of the watershed and the vulnerabilities of the community center or roads and bridges leading in and out of town should be highlighted.

During pre–training research, investigate whether the community already has a map (often the local public health clinic has one). Additionally, many countries already have an established protocol regarding risk mapping, as well as an established risk map and a disaster management plan. In many countries, the civil defense or comparable local agencies are responsible (e.g., weather service). It will be important to find out if such agencies or situations exist in–country. If so, this is a good place for this part of the training to start, and a good place for the participants to start their inquiries. Study these and prepare to make suggestions and offer feedback and guidance to participants.

Additionally, the trainer should be prepared to notice and address different participation levels of individual participants. If Counterparts are included in this training, they may be particularly hesitant or extremely demanding of themselves in approaching the mapping exercise. Be sure to circulate during the session and provide suggestions and assistance. Explain that the point of the exercise is to draft a map that participants can take back to their communities to complete between the second and third day of the workshop.

The community mapping exercise here has different objectives than the Community Mapping training that is presented in *PACA: Participatory Analysis for Community Action* (ICE number M0053). If this and the associated mapping session, Part One, Session 8: **Mapping**, are conducted using a participatory process with Counterparts, and/or perhaps later with other community members, it is strongly suggested that facilitators read the *PACA* manual and include activities that would permit comparison of different perceptions in the audiences’ vulnerabilities (including gender differentiation) and resources.

Also, before participants go out to communities for the purpose of mapping, it is important to notify the communities that the participants will be visiting and interviewing community members as part of this exercise. Trainers need to stress the importance of providing an introduction to their work, and the reason for their inquiries. (Depending on the country, culture, and community, it might be worthwhile providing some formal introduction that the participants can use.) Being sensitive to one’s cultural surroundings is an important lesson in and of itself, but failing to identify the reason for this exercise can result in a feeling of offensiveness and defensiveness on the part of community officials and members. This can ultimately result in an unwillingness of community members of any group to participate.

## Delivery

### Step 1. Importance of Risk Assessment Maps

- a. Tell the participants that you would like to focus now on maps of their communities that may be available and which are kept to identify landmarks important to a disaster mitigation effort. Identify community mapping as a “community entrance activity” that will help analyze and identify risks and resources in each community, and help participants plan responses in the face of emergencies.
- b. Ask the following questions. Probe until adequate answers have been provided. If participants cannot answer the second through fourth questions, stress the importance of learning the answers.
  - What is a community risk analysis? (*An analysis that identifies the hazards and resources of a community.*)
  - Why are community risk analysis maps important tools for disaster preparation? (*To know where the dangers lie, to be able to find and communicate with everyone in case of emergencies, to know where resources and risks are, to increase public consciousness about past natural disasters and disaster preparedness.*)
  - Where are the community maps held in their communities? (*Local government offices, village or town or city planning boards.*)
  - Are they in a place where everyone in the community can see them and refer to them? (*This may be the case, depending upon the country, government systems, and locale.*)
  - Are they accessible to everyone (in terms of location, language, or literacy)?
  - Who drew the map? (*It is important to identify the individual(s) who drew the maps in case there are any questions about it.*)
- c. Tell the participants that the afternoon’s activities will focus on creating maps of their communities. Also note that when they finish, they will have a map that not only shows what structures are in their community, but also shows their community’s vulnerabilities to natural disasters and resources that might be useful during or after a disaster.

### Step 2. Key Elements for Maps

- a. Provide participants with the handout *Hazard Analysis Steps*. Put the prepared flip chart of the flow chart in front of the room. Have the participants read the steps of the process out loud, with each participant speaking in turn for each step. Note that these activities are a part of the BEFORE phase of the Disaster Cycle that can be done with other community members when Volunteers get to their sites.
- b. Show them the prepared flip chart *What is in our Communities?* and ask for more suggestions until the list is completed by drawing the names of participants out of a hat and asking each one in turn, to add one item to the list. Continue drawing names from the hat until each person has at least one turn and the list is fairly complete.

- c. Ask participants to make a complete list of what is in their community on page 11 of their Workbooks. If there are more than one Volunteer and Counterpart per community, ask them to form small groups. These “community groups” will be referred to later in the training.
- d. After they identify what is in their community, ask them to take a piece of flip chart paper and a pencil (so that changes can be made) and start to draw their community maps.

### **Step 3. Closure**

Tell participants that they have now completed the first steps of community mapping. Ask them what types of issues they need to keep in mind when they are developing their maps and why (e.g., the vulnerabilities of the community and what resources there are to address them, what roles various community points and places can play during a hazard). Thank the participants and remind them that these subjects will be taken up in more detail in the next sessions ahead.



## *Handout*

# *Field Work: Practice Community Hazard Analysis and Mapping Steps*

1. Introduce yourself to community elders or leaders. Describe what you are learning about disaster management and ask their permission to talk with community members so that you can draw a risk map. Get their suggestions of who to meet with.
2. The Volunteer meets with representatives from the community and with the institutions involved with disaster preparedness and responses to assess human resources. Other community groups that might be involved—although not represented here—include women's groups and faith-based groups.
3. The Volunteer determines whether a community map (community map  $\neq$  bounded village unit; hunting areas, fields, and kinship networks may be far away) with hazards identified or a hazard inventory exists. If a hazard map or hazard inventory exists, then the Volunteer acquires it; if not, the Volunteer proceeds with Step 5.
4. Volunteer acquires other appropriate maps of the area.
5. With the help of community members, if possible, the Volunteer sketches a map showing the vulnerabilities and resources.

## Session 6:

# Hazards and Vulnerabilities in Our Communities

### Overview

This session helps participants to explore the relationship between disasters, poverty, and vulnerability. Initially, some participants may have difficulty understanding that some people are more affected by natural disasters than others and that a community can prevent some potential losses through preparation.

### Objectives

By the end of the session, the groups will be able to:

1. Better express the relationship between natural disasters, development, poverty, and vulnerability.
2. Identify the primary disaster risks and hazards faced by their communities.
3. Add vulnerabilities and hazards to community maps.

### Time

At least 1 hour

### Materials

Workbooks

Flip charts from previous sessions, Part One, Sessions 2 and 3:

- Damages and Losses
- Events That Can Cause Disasters

Flip chart

- What Are Risks and Hazards? (drawing)
- Rio Grande photograph
- The Volcano drawing

Sample community maps

Red and black markers, pencils, erasers, rulers, etc.

Handouts

- *Case Studies*

### Delivery

#### Step 1. Poverty and Natural Disaster Losses

- a. Introduce this session by telling participants that they will continue to work on their maps during this session, but first you would like to talk about why some sectors of the community may suffer more damages and losses than others as a result of disasters and emergencies.

- b. Briefly review the DAMAGES AND LOSSES flip chart list that was discussed earlier. If any members of the group have had experience with disasters, ask them to respond to the following questions and provide comments on the answers:
- Why do you think that more poor people than middle class or rich people lost their houses during the disaster? *(They lived close to the rivers, on hillsides, in poor, weak houses.)*
  - Why would many of the poor still be living in shelters? *(They do not have enough money to get new housing, their families do not have room for them, the government is not fulfilling its promises.)*
  - Would the poor or the more wealthy be better able to recuperate and get on with life after a disaster? Why? *(The answer primarily lies in resources; thus, we say that, generally speaking, the poorest people have more difficulties than those who have more resources.)*
- c. Then, provide participants with the case studies. Ask them to spend a few minutes reviewing the information in them and, as they are reading, to reflect on the types of situations in which the poor likely found themselves within the situations described. Focus on four questions:
1. What situations did the poor who were living in affected areas likely face?
  2. Where might they have gone after the disaster?
  3. What conditions were they living in one year later?
  4. What role might a Volunteer be able to play given a similar scenario?

## Step 2. Summary

- a. Ask the participants what a vulnerable population/condition means. *(The people most likely to suffer loss in terms of person, property, or goods; those people in situations where, after a disaster, it is more difficult to move forward.)* Ask if this is clear.
- b. Ask for examples from their communities for whom this might be the case. Ask for any questions or comments.
- c. Post the list Events That Can Cause Disasters, and note that the poor suffer most during these occasions throughout the world.
- d. Post the photograph of the Rio Grande. Ask the participants what two hazards people face *(rain, flooding of banks)*: Which of the houses are most vulnerable to each hazard?
- e. Post the drawing The Volcano and identify it as a “hazard.” Ask the participants what the risk is. *(The volcano might erupt.)* Ask which of the communities is most vulnerable in the face of the volcano erupting? *(The community at the foot of the volcano.)* Ask what could happen to each of the communities to provide a fuller understanding of the different vulnerabilities in the communities.



### Step 3. Application to Own Community

- a. Ask participants to look at pages 11 to 16 in their Workbooks. Review the contents and activities.
- b. Explain that they will work by community groups to complete these pages and that the group will reconvene later to identify the strengths and resources of the communities. Ask for questions and then ask them to form their groups and carry out the activities in their Workbooks.

### Resources

The following specific resources would be helpful as background reading for this session.

Materials on individual disasters in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*.



*Handout*  
*Page 1 of 10*

## ***Case Study Examples of Peace Corps Volunteers' Involvement in Disaster Management***

The following are examples of case studies to provide background for how Peace Corps Volunteers have been involved in the past before, during, and after natural disasters. Information for the training should reflect the host country situation and involvement. Trainers should attempt to provide the relevant information from that country or similar environments. These situations were developed following Hurricanes Mitch (1998) and George (1998).

### ***First Year Hurricane Anniversary Report***

#### **Honduras**

Honduras suffered the main force of Hurricane Mitch in 1998 with widespread flooding, massive erosion, and landslides throughout the eastern and southern regions of the country. Homes, farms, businesses, and much of the country's infrastructure were destroyed. Volunteers are working to rebuild basic household and community infrastructure to allow families to meet immediate needs.

Since Hurricane Mitch, Peace Corps/Honduras has increased its Volunteer presence by over 40 percent. The Peace Corps is refocusing its programs in Honduras by integrating awareness and mitigation into all ongoing projects with a concentrated effort to train leaders, women, youth, and staff of organizations and municipalities to plan and prepare for future disasters. The Peace Corps is thus able to extend its reach, through its Peace Corps and Crisis Corps Volunteers, to large numbers of people and communities hardest hit by the hurricane. Projects in traditional Peace Corps sectors such as water and sanitation are now focusing on rebuilding water-system and latrine infrastructure destroyed by the hurricanes. Those in agriculture are helping the impoverished rural population recover from devastating crop loss in basic grains and providing income generation opportunities through the production of small livestock. Projects in new areas to Peace Corps, such as municipal management aim to train municipal staff to be the locus for rebuilding community infrastructure and services.

#### **Peace Corps Volunteer Activities**

**Morolica, Choluteca:** The entire community of Morolica where the Volunteer was assigned was swept away by massive river flooding caused by Hurricane Mitch, leaving behind only the remains of the local church. More than 400 homes were lost, including the Volunteer's. During the hurricane, the Volunteer worked with community leaders to evacuate townspeople to safety. In the days immediately following the hurricane, he and a schoolteacher walked almost 25 miles (40 kilometers) on wet, muddy roads to coordinate donations of emergency food and medical supplies from a neighboring community and carried the supplies to Morolica for distribution. He helped organize two temporary health centers which supplied emergency medical aid to hurricane victims and formed the community into several relief committees, such as food and



## *Handout*

### *Page 2 of 10*

clothing distribution, road rehabilitation, and census taking. He then established groups for latrine construction and helped with medical brigades, acting as a translator and liaison between international aid agencies and local people. Following a temporary evacuation to Panama, the Volunteer returned to his site to continue the work with community leaders in the reconstruction efforts of “Nueva Morolica.” Because of his dedicated and tireless efforts before, during, and after Hurricane Mitch, he built an unbreakable bond between himself and the people of his community.

**San Antonio de Flores, Choluteca:** San Antonio de Flores, Choluteca, is a small community on the Pan American Highway south of Tegucigalpa. Torrential rains from Hurricane Mitch caused the Rio Grande, which flows by this community, to flood its banks, wreaking havoc on the community. Many people lost their homes and personal belongings. The Volunteer was a health extensionist whose primary assignment had been working to improve health practices in the community and develop youth leaders through life planning education. In the aftermath of Mitch, she worked with the town’s mayor to organize displaced persons into committees to determine needs and assisted them to secure building materials for temporary shelters through a local cooperative housing foundation with USAID funding. She supervised the local committees in the construction of 70 temporary shelters for 350 people. The townspeople in San Antonio de Flores are slowly piecing their lives back together. One year after Hurricane Mitch, the temporary shelters made of wood and plastic canvas still stand and continue to be a home for those families who lost everything during the storm. A fortunate few have established a small store within their one-room shelter where they sell candies, bags of banana chips, and cans of soda and have one or two small cots that accommodate a family of four to five people. Life on the Rio Grande along the Pan American Highway remains a struggle, but now with a roof over their heads these families are reconstructing other parts of their lives.

### **Crisis Corps Activities:**

In the last year, the Crisis Corps has placed 44 Volunteers in Honduras. They have worked with communities to rehabilitate water systems, build new housing, train unskilled workers in basic construction techniques, assist with immunization campaigns, provide trauma counseling, and work with farmers on mitigation techniques.

The 12 Crisis Corps Volunteers assigned to water and sanitation projects estimate that they have helped with the damage assessment, repair, or construction of well over 100 water systems. Five of the Volunteers are civil engineers; several took leaves of absence from their firms to respond to the devastation in Honduras. The group included a geologist who was a Peace Corps Volunteer in the Dominican Republic in the early 1970s. Now a university professor, he volunteered to work during his summer break with SANAA, the Honduran Ministry responsible for water projects. In addition to evaluating water supply sources and locating dozens of sites for future drilling, he also provided technical training to SANAA personnel and staff from NGOs working on water projects.



*Handout*  
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## **Dominican Republic**

In the Dominican Republic, Hurricane Georges caused widespread damage to infrastructure, homes, water systems, crops, and businesses, especially in the southern and eastern regions of the country. Peace Corps Volunteers serve in some of the most devastated areas of the country working in agriculture, education, environment, forestry, water and sanitation, child survival, and small business development. Immediately following Georges, Volunteers in all sectors, along with Crisis Corps Volunteers, worked in emergency response activities and have parlayed those experiences into ongoing mitigation and response efforts including promoting rapid-production crops, rebuilding of water systems, schools, and latrines, and housing reconstruction.

By incorporating disaster mitigation and preparedness into all project areas, the Peace Corps is able to extend its reach through its Peace Corps Volunteers and Crisis Corps Volunteers to large numbers of people and communities hardest hit by the hurricanes. A concentrated effort is being made to train leaders, women, youth, and staff of organizations and municipalities to plan and prepare for future disasters.

## **Peace Corps Volunteer Activities**

**Hato:** When Hurricane Georges destroyed more than half of the schools in her district, one Volunteer shifted her focus from developing teacher training modules to leading a school reconstruction program. She worked closely with eight communities in her province to rebuild their community schools, start school vegetable gardens, and initiate reforestation efforts.

**Brisas del Este:** One Volunteer was living in Brisas del Este in the outskirts of Santo Domingo when the hurricane hit the Dominican Republic. The 2,500-member community was severely damaged by Georges, and most houses were destroyed, including his. In response to the damage, he worked with a local NGO on a housing reconstruction project that benefited 25 families and helped to establish a temporary medical dispensary to provide first aid to the community. He also facilitated the procurement of two 500-gallon water tanks to provide chlorinated water to the community. As part of the project, he helped form and train a local community team to chlorinate the water and oversee its distribution. This project was said to have avoided an outbreak of waterborne disease due to the lack of potable water in the community.

## **Crisis Corps Activities**

Thirty-three Crisis Corps Volunteers have been sent to the Dominican Republic to help communities recover from Hurricane Georges. The Volunteers worked with the Red Cross, World Food Program, Habitat for Humanity, and several Dominican NGOs to construct housing, monitor food distribution, rehabilitate agriculture, and repair latrines.

Five Crisis Corps Volunteers were assigned to Habitat for Humanity/Dominican Republic to help community members repair housing in Tamayo, a town which had been covered by a three-foot blanket of mud and debris. The Volunteers helped plan and implement a project that repaired



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more than 450 houses. Team members included two Peace Corps Volunteers who had served in the Dominican Republic in the early 1960s. One went on to a 25-year career at the U.S. Department of Housing and Urban Development, and the other is a teacher with seven years of construction management experience.



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## Nicaragua

Nicaragua suffered widespread flooding and landslides from Hurricane Mitch, causing loss of infrastructure, as well as damage to homes, businesses, schools and crops. In response to immediate needs following Mitch, as well as long-term development needs in rural Nicaragua, the Peace Corps launched a new agriculture project to help the impoverished rural population recover from devastating crop loss in basic grains and to provide opportunities to generate income.

Peace Corps/Nicaragua is strengthening coordination with communities and municipalities to increase their capacity to plan, implement, and facilitate mitigation and recovery activities in such areas as latrine and water source development, health education, and soil conservation including reforestation, live barriers, and alley cropping. Throughout these activities, a special emphasis has been placed on youth development and participation.

Over the past year, 14 Crisis Corps Volunteers have worked in Nicaragua on construction projects, agriculture rehabilitation projects, and health activities with Nicaraguan NGOs as well as Project Concern, Save the Children, Catholic Relief Services, and Technoserve.

In the aftermath of Hurricane Mitch, Peace Corps Volunteers were instrumental in coordinating with church, governmental, and NGOs to get food, clothing, and water to individuals in designated refuge areas. Many Volunteers concentrated their efforts on contaminated water sources by working with local health center personnel and community leaders and going house to house visiting families, explaining the health hazards of contaminated water, and distributing bleach to purify drinking water.

## Peace Corps Volunteer Activities

**Estelí:** Before Hurricane Mitch, one Volunteer had begun working with a Mother's Club promoting balanced diets for their children and had collaborated with Doctors Without Borders on a de-parasite and supplemental-nutrition campaign. He is now making house-to-house visits in seven villages on an anti-cholera campaign organized by Food for the Hungry. He believes the success of the work stems from their organization before the hurricane. Since Mitch, he has helped eight women leaders start a fruit-tree nursery as well as a 10,000-shade-tree nursery with the assistance of the Nicaraguan Agricultural Technical Assistance Institute (INTA). He also is assisting with efforts in the reconstruction of two bridges that were washed out by the storm.

**Palo Grande:** A Volunteer participated as a member of her town's emergency action committee in Palo Grande, Chinandega. Safe drinking water was a major concern for the community, so she gave educational sessions on the importance of boiling water to purify it. She helped organize a brigade of health volunteers to go house to house and lead community meetings about preventing cholera, diarrhea, dengue, and malaria. She also helped distribute food aid to townspeople and to the 750 refugees sheltered in Palo Grande.



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### **Crisis Corps Activities**

**Jinotega:** Two Crisis Corps Volunteers assigned to Project Concern worked with groups of farmers in Jinotega, an area hit hard by Mitch. One had previously served in Honduras, and the other had served for three years in Paraguay, trained farmers in soil conservation and rehabilitation techniques and worked with families to plant community and family gardens.



*Handout*  
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## **El Salvador**

Although some areas of the country were gravely affected by Mitch, especially due to coastal flooding in the South, El Salvador escaped the severe, widespread damage seen in neighboring countries. Because the potential for future ecological disasters and hazards is still extremely high, Peace Corps/El Salvador's programs in water and sanitation, agroforestry, and small business have placed a greater emphasis on disaster management and preparedness techniques throughout their projects.

Peace Corps/El Salvador has been bolstered by additional Volunteers who are working in municipal development to train municipal staff members and rural community groups to improve administration and organizations skills. Additionally, the Volunteers will provide permanent technical support to bridge the gap between the municipality and development agencies while supporting these agencies' development and mitigation efforts.

By incorporating disaster mitigation and preparedness into all project areas, the Peace Corps is able to extend its reach, through its Peace Corps and Crisis Corps Volunteers, to large numbers of people and communities hardest hit by the hurricanes. A concentrated effort is being made to train leaders, women, youth, and staff of organizations and municipalities to plan and become prepared for future disasters.

## **Peace Corps Volunteer Activities**

**Berlin:** A Volunteer who serves in Berlin, Usulután, was on a bus traveling to her site when Hurricane Mitch struck. Leaving the bus, she walked to her site because the road was blocked by mudslides. She spent hours working her way around slides to reach her community. Once there, she immediately joined the mayor and town council in organizing relief efforts. She stayed in her site throughout the hurricane, assisting her friends and neighbors. She has extended her Peace Corps service for one year and is currently serving as the adviser to Berlin's municipal council to develop a community disaster-preparedness plan.

**Pirraya:** A Volunteer is assigned to Pirraya, a small island inhabited by 100 families in the Gulf of Jiquilisco in the Department of Usulután. Life is hard in Pirraya, even under normal circumstances, but it was particularly difficult after Hurricane Mitch. All families were evacuated during the hurricane; returning families found that saltwater had intruded into the community's precious drinking water sources. Since then, the Volunteer has worked with his neighbors to obtain funding for rehabilitating and improving the community's access to safe drinking water. It appears likely that, through his efforts, a donor will build an innovative new water catchment basin in the island's center, the only viable long-term solution to the community's water problem.

## **Crisis Corps Activities**

Although El Salvador was not as badly affected by Hurricane Mitch as its neighbors, the country remains vulnerable to future hazards. A Salvadoran NGO working with coastal communities in Usulután requested a Crisis Corps Volunteer to work with them on a long-term plan to reduce the





*Handout*  
*Page 8 of 10*

vulnerability of coastal areas to natural hazards. A former Peace Corps Volunteer from Colombia responded. Currently, he is a professor of architecture and community design at the University of Iowa, he was able to put his experience in mitigation planning to good use in helping the Salvadoran organization think through the elements of a sustainable disaster management plan.



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## **Guatemala**

Guatemala was fortunate, in comparison to its neighbors, to escape the severe impact of Hurricane Mitch but still is feeling the effects of destructive flooding and landslides. The Peace Corps program in Guatemala is using Crisis Corps Volunteers in partnership with Peace Corps Volunteers to develop disaster mitigation plans and activities, not only in response to Mitch, but also to address potential hazards such as earthquakes, volcanoes, drought, and hurricanes throughout Central America.

Peace Corps/Guatemala Volunteers work in community disaster awareness and preparedness, water and sanitation system reconstruction, reforestation, community infrastructure and management, watershed management, small business training for micro–enterprise development, sustainable small–scale agriculture, and household food security. By incorporating disaster mitigation and preparedness into all project areas, the Peace Corps is able to extend its reach, through its Peace Corps and Crisis Corps Volunteers, to large numbers of people and communities hardest hit by the hurricanes. A concentrated effort is being made to train leaders, women, youth, and staff of organizations and municipalities to plan and become prepared for future disasters.

## **Peace Corps Volunteer Activities**

**Los Amates Village:** In 1998 the Amates River rose several meters and overflowed its banks, destroying the homes of the 17 Pokoman families in the Los Amates Village, San Luis Jilotepeque. The devastation that the Volunteer witnessed 10 hours later was total and traumatic—some people lost not only their homes but also their corn and beans stored in metal silos, their furniture, and everything they owned. Fortunately, no lives were lost. In the storm’s aftermath, she, in partnership with the Los Amates Housing Committee, a local Guatemalan NGO, requested assistance from the mayor, and other local organizations helped to reconstruct the community. CARE, the mayor, the Cooperative El Recuerdo and FONAPAZ offered excellent support and financial assistance to help rebuild the village.

## **Crisis Corps Activities**

The Crisis Corps provided eight Volunteers to work in areas that suffered extensive damage from Hurricane Mitch. One team was assigned to the municipality of Rio Hondo to help rebuild bridges, repair drinking water systems, and conduct health education workshops. This was also an area where many varieties of fruit trees washed away overnight in the flooding that resulted from the hurricane. Recognizing the farmers’ need to replace lost income, the Crisis Corps Volunteers developed a papaya project to generate cash income in the meantime. To help ensure the sustainability of the Crisis Corps project, two Peace Corps Volunteers have been assigned to the area to work with farmers on marketing and production.



*Handout*  
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## **Eastern Caribbean**

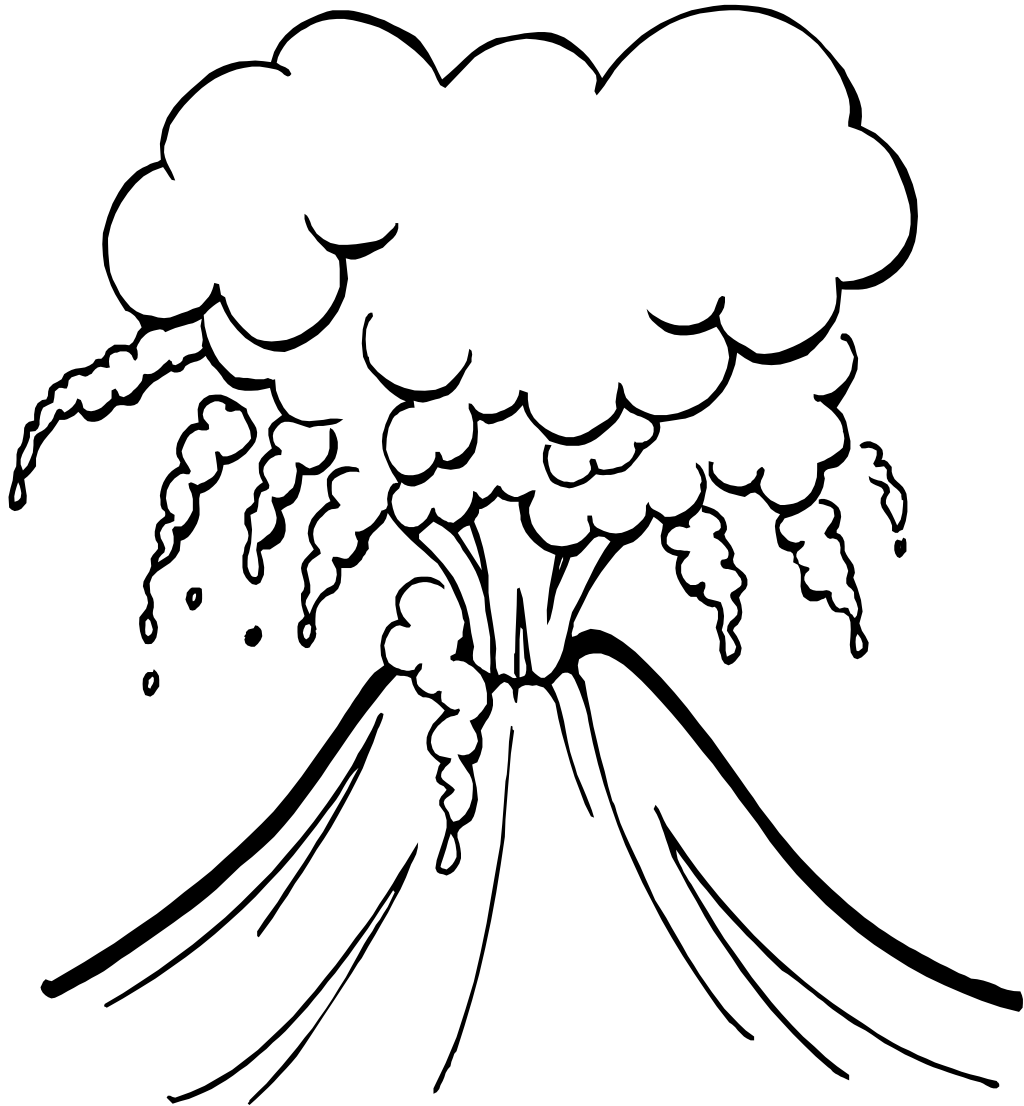
### **Crisis Corps Activities**

When Hurricane Georges passed through the Eastern Caribbean, a number of homes on the island of Antigua were damaged or destroyed. At the request of Antigua's National Office of Disaster Services, 10 Crisis Corps Volunteers worked with laborers from Antigua's Defense Force and the Public Works Department to help rebuild the homes of the neediest hurricane victims. In addition to providing hands-on assistance, several Crisis Corps Volunteers also developed a two-day training program for 25 local workers in hurricane-resistant construction techniques and helped create a training manual for the Office of Disaster Services titled ***Build It Strong***.

*Handout*  
*Rio Grande Photograph*



*Handout*  
*Volcano Drawing*



## *Session 7:*

# *Capacities, Resources, and Strengths in Our Communities*

## **Overview**

This session helps participants learn the importance of clearly identifying the strengths and resources of communities during times of disasters, and to ensure that the ‘soft resources’ (systems, plans, procedures) are not forgotten.

## **Objective**

By the end of the session, the participants will be able to clearly identify the main resources in their communities that can aid in disaster prevention, preparation, and response.

## **Time**

45 minutes

## **Materials**

Participant Workbook

Prepared flip charts:

- During the Emergency
- Physical Resources of the Community
- Human Resources of the Community
- Soft Resources (plans, systems)

## **Delivery**

### **Step 1. Introduction**

Introduce the session by noting that the points that were identified during the session on sharing reactions to a disaster focused on difficult and dangerous times. Remind them that often individual communities are left essentially on their own for a period of time to face and resolve problems that arise during and after a natural disaster.

### **Step 2. Local Resources**

- a. Provide the participants with the flip chart During the Emergency, and note that most people are able to accomplish what they need to because of the many strengths and resources available in communities. These include physical resources, such as a health center or motor vehicles. Human resources include people with particular skills, such as construction workers, plumbers, nurses, or other groups in the community. Social resources include existing groups and organizations.

- b. Point out to the participants that each resource, whether physical or human, has capacities or functions that can offer help during times of emergency or disaster. Ask for examples:
  - The function of a health center during the emergency is to treat the injured or perhaps provide temporary shelter if the health care workers and injured can get there.
  - The function of construction workers is to direct individuals and community groups in repairing roads and buildings.
- c. Ask the participants to look at page 17 of their Workbooks and together review the definitions.

### Step 3. Individual Community Inventories

- a. Ask the participants to work in their community groups and fill out pages 18 and 19 in their Workbooks, and, as possible, move on to successive pages using the examples provided in the Workbook to guide them and their collective knowledge to complete the Resource and Capacity Inventory. Point out that there are many important resources in communities that often are taken for granted. Also point out that time spent to identify resources is time well spent, because better use will probably be made of the resources. Let them know that they may not be able to finish the resource inventory now, but that they can continue working on it in their communities.
- b. Give them time to work on the exercise and tell them that each group will share their inventory with the larger group.

### Step 4. Summary

Close the session by asking how the work is going, and whether any group was able to finish the resource inventory. Ask a few people to give one example of a physical resource, one example of a soft resource, and one example of a human resource. Thank the participants for their efforts.

## Resources

The following specific resources would be helpful to this session.

Materials on individual disasters in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*.

## Session 8:

# Mapping

### Overview

This session helps the participants build their mapmaking skills.

### Objectives

By the end of the session, the participants will be able to:

1. Develop their community's maps.
2. Indicate important risks and physical resources on maps.

### Time

3 hours

### Materials

Blank flip chart

Prepared flip charts:

- Example of Destructive Event Damages and Losses
- Resource Inventory Questions
- Problem, Results, Resources

Black, red, and green fine–point and regular–point permanent markers

Rulers

Pencils

### Preparation

Information from the *Disaster Preparedness and Mitigation PST Module*, Part Two, Session 2: **Community Risk Analysis and Mapping**, as well as the disaster–specific materials in the Appendix are relevant to this part of the IST. The trainer should review that part of the PST and draw from relevant information presented there.

### Delivery

#### Step 1. Introduction

Let the participants know that they will have the rest of the afternoon to continue working on their maps. Tell them that their task is to:

1. Draw all the physical elements of their community on their map, using black markers.
2. Designate the risk areas using red markers.
3. Designate the physical resources that can be used during emergencies using green markers.



Ask if there are any questions. Tell them that they will be getting back together in two hours to see what they have accomplished.

### **Step 2. Presenting Maps**

During this step, participants briefly present the map(s) they have made. Allow each group five minutes to present their map. Training staff should ask questions that will guide participants to a complete and accurate product. Compare and contrast the maps. Ask the participants to identify the strengths and weaknesses of each map. An additional community member may be invited to attend the presentations and serve as a reviewer/ commentator.

### **Step 3. Listing Destructive Events, Damages and Losses**

- a. Using the format in the box below (but adapting the information for local conditions), direct the participants in making a list of destructive events and damages and losses. Headings on flip charts should be prepared in advance.

#### ***Examples of Destructive Event Damages and Losses***

Volcanic eruption of 1978

- 45 houses destroyed
- 6 lives lost
- Crops and livestock destroyed

Hurricane Crazy, 1999 (caused flooding of “Big River”)

- 25 houses destroyed
- All crops along the riverbanks lost
- Places of worship washed away
- Bridge into town destroyed
- Power lines and water system destroyed

- b. Probe the participants to find out if they have enough information to indicate the areas on their maps most prone to damage and loss. For example, during Hurricane Crazy in 1999, 25 houses were destroyed. Do they know where those houses were located? Have they been rebuilt on the same site? How far did the flooding extend? Are those areas still vulnerable? Have any mitigation efforts been instituted since the disaster?

### **Step 4. Getting Vulnerability Information**

Introduce and provide information for the next independent task, which involves having the participants identify, to the extent possible, information about their communities that were and were not damaged during past destructive events.

- a. Note that the most vulnerable areas are: (include, as relevant) areas close to town or within the jurisdiction, as well as areas susceptible to mudslides and other disasters.
- b. Ask the following question: Why is it important for a community to know where its most vulnerable areas are prior to an emergency or disaster? (*In order to evacuate those*

*in danger or take other preventive actions to reduce damage and loss; to plan and carry out mitigation activities.)*

- c. Point to the prepared flip chart Resource Inventory Questions and fill in responses given by participants following the questions on the flip chart.

**Resource Inventory Questions**

What problems did the community face during recent emergencies and disasters?

How was it able to respond during the most recent emergency? What resources were on hand and put to use?

What was needed, but not available?

- d. Note the importance of recognizing and being able to access the local resources during the BEFORE phase of the disaster cycle by giving an example (one example is provided below).

**Example of the Importance of the Early Knowledge  
of Local Resources in a Disaster**

In many communities in Honduras, annual flooding is a reality. Year after year, the flooding, along with massive mudslides, has gotten steadily more serious and widespread as deforestation and traditional agricultural practices have depleted the forests and hillsides throughout the country. The massive rainfall accompanying Hurricane Mitch in 1998 resulted in a disaster of gigantic proportions destroying homes, bridges, roads and crops and flooding towns and villages in nearly the entire country. Innumerable communities were cut off by fallen bridges, washed-out roads and raging rivers where streams used to be. Cities, towns and villages were left on their own. It was impossible for adequate assistance to arrive. These communities found themselves solving a myriad of problems, including sheltering the homeless, providing medical care to the sick and injured, supplying food and clean water to local residents, reestablishing electric service, and other activities. Most communities were caught unprepared, although the ability for even the poorest community to pull together and solve their most pressing problems was impressive. As a result of Hurricane Mitch, many communities are taking disaster preparedness seriously, and have put together emergency plans which include identification of the resources they have on hand to face future problems.

- e. Provide a quick “reality check” for the participants by providing them with “what if” questions about specific situations that they might find in their host country:
  - 1. What tools or equipment would be helpful for the community to have in case of a flood? Who has the rowboats or canoes? Who has the shovels and picks? Who has gas or kerosene stoves?
  - 2. Where is higher ground that is likely to be untouched, and how far away is it?

3. How will community members get there?

Note that these kinds of low–cost, low–technology resources are found in many communities, but not necessarily considered as resources.

**Step 5. Resource Preparedness**

Begin a Resource Preparedness Exercise by presenting a flip chart (prepared in advance) that reads, Problem, Result, Resources. Ask participants to help fill in the information. Let them know that this is the type of information that they will be gathering from the community. The following are examples (alter the examples using the type of disaster that is likely in their host country and local names):

- a. Problem (e.g., the bridge washed away)  
Result (e.g., there is no access to town, no food is coming in)  
Resources (e.g., canoes are at M. Bouhafa’s [change name to fit circumstances] house, the silos at the agricultural co–op have grain enough for two weeks).
- b. Problem: Electric lines down  
Result: There is no power for stoves  
Resources: Six homes have gas stoves and three have extra gas cylinders. There are small private generators in the homes of Haj Jabra and Mme. Zohra.
- c. Problem: 25 homes destroyed by flooding and high winds  
Result: 25 homeless families, sick children  
Resources: Shelter at school, cots available at the Forest Service retreat camp, health clinic has one month supply of basic medicines and supplies on hand.

Tell the participants that it will be important to use people and records to provide the most complete picture possible of the risks and resources the community has in order to be better prepared to face future emergencies.

**Step 6. Completing Community Maps**

Provide another 30 minutes or so for the participant teams to color in their community maps. The actual coloring in of the community map should follow guidelines established by the local civil defense or emergency management agency. The colors and symbols used to represent various conditions and objects should be standardized. Suggestions for colors and symbols are included as an attachment. Have the groups indicate risks and vulnerable areas using red markers, and physical resources using green markers on their already completed community map. Process the information that the map displays, and discuss where the map should be posted and/or what next step the participants would like to take with it (e.g., copy it for each member of the group).

**Step 7. Closure**

Wrap up the exercise with a discussion about what the participants learned from the mapping experience. Use these questions as a guide:

- Have there been surprises?
- Has the activity allowed you to learn more about the community?

- What happens when you look at an area close up versus far away (that is, what differences are there when one focuses on a small mapped area versus a large area)? Do the risks or vulnerabilities that are perceived and mapped change?
- Has this exercise been useful?
- With whom could you do this exercise at your sites (organized groups, neighbors, municipal workers, schools, etc.)?
- When is an appropriate time for you to get involved with community mapping in your community?

Congratulate everyone on the work they have done, and let them know what the next activity will be.



## Session 9:

# *The Effective Facilitator*

### Overview

After carrying out the pilot test of the IST, the Peace Corps found that the most common activity carried out by the participants in their communities during the follow-up period between Parts One and Two of the IST was the replication of the IST, in whole or in part, with community members. This session shows participants different styles of training facilitation and teaches them about participatory learning, a process that may contrast with the formal type of education that most participants have had in the past. Participatory learning is a part of most informal educational processes and provides a hands-on learning experience that promotes self-discovery, sharing, and equality in the learning environment.

### Objectives

By the end of the session, the participants will be able to:

1. Identify the characteristics of an effective facilitator.
2. Identify the characteristics of an effective training activity and compare them with the characteristics of ineffective activities.

### Time

1 hour

### Materials

Blank flip chart, markers

### Preparation

Two people (from the Peace Corps or the host country) need to be brought in and prepped to provide two styles of a short presentation. The first trainer should be instructed to act in a superior manner, occasionally banging a ruler on the table or lectern (particularly if there is talking or laughing), scolding the participants, and refusing to address input or questions – but this should be done in as “real” a manner as possible, avoiding the look of an “act.” Another individual should provide similar information to the information provided by the Autocratic Presenter, but in a manner that is in keeping with a participatory manner (see examples in Delivery, Step 2).

### Delivery

#### Step 1. Introduction

After carrying out the pilot test of the IST, the Peace Corps found that the most common activity carried out by the participants in their communities during the follow-up period between Parts One and Two of the IST was the replication of the IST, in whole or in part, with community members. This session shows participants different styles of training

facilitation and teaches them about participatory learning, a process that may contrast with the formal type of education that most participants have had in the past.

## Step 2. The Effective Facilitator

Tell the participants that there will be two short presentations during this session on community disaster preparedness plans, but that the methods for presenting will be quite different. Ask them to pay attention to the various characteristics of the two training styles and to determine which they think is more effective, and why.

- a. The first trainer presents using an autocratic style as described below.

### ***Autocratic Presentation***

Today we are going to have a class entitled **Community Disaster Preparedness Plans**. Who brought their plans with them? Nobody? How can that be? Why do you think I invited you to this workshop over a month ago, if it wasn't to give you time to get your plans together? What is wrong with you? You're not doing what you're supposed to. I don't want to hear any excuses: "I don't have time, I don't know how to do it" is not acceptable. If you can not do your jobs, perhaps someone else can. Well, since you don't know what you're doing, I will just tell you exactly what it is that you have to do.

First, completely fill out pages 3 through 22 in your Workbooks. You need to type all the information on a computer and send it to me no later than a week from Friday. If you do not have electricity or computers in your community, find a place that does.

Then, convene a meeting of the coordinators of your Municipal or Local Disaster Committee. They will need to complete pages 23 to 54 in the Workbook, and once again type all the information that they should turn in to you no later than two weeks from Friday. If there is no committee formed in your town yet, you will, need to have it completed by the deadline.

Once I get your information, I will correct and change it as necessary, and send it back to you. You will make the changes on a computer at that time. You will then send the original back to me. I will provide it to the Peace Corps country and Washington offices and various Ministries. If you feel that you need a copy in your community, request it from the Peace Corps Headquarters Office.

That is all for now. I have to go. There is no time for questions. I suggest you get to work.

- b. The first trainer leaves, the other trainer enters and begins to provide similar information, but in a different manner.

### ***Participatory Presentation***

Hello, how are you all? It is a great pleasure to be with you again, as we continue learning together. This evening we will spend a little time talking about Community Disaster Preparedness Plans. As we have seen throughout the day, there is an incredible amount of knowledge and experience in this room, and plenty of good ideas for each of you to share with your colleagues.

To begin with, why is it important to have a Community Disaster Preparedness Plan? (Allow time for participants to respond.) Yes, those are all excellent ideas. What ideas do you have about what to include in the plan? Who should write the plan? (The members of the community.) Those are all great ideas.

Now, in order to get started on your plans, spend the next two minutes working with the person sitting next to you. Write a list of all the things you would like to include in the plan for your communities. Does anyone have any questions?

Who wants to share an idea with the rest of the group? (Allow three or four people to share.) Fantastic! I know it is late, and you have all worked incredibly hard today. So let's put the lists away for now. Tomorrow we will do further work on your plans. Any questions?

### **Step 3. Analyzing Presentation Styles**

- a. Ask the participants which trainer was more accessible, and likeable and more likely to be successful with a group. Make a list of the different characteristics of the trainers, writing them down on the flip chart as the participants identify them. Point out, however, that cultural differences likely will affect types of presentation styles. Point out, also, that participants should try to become aware of those and form styles that both meet cultural norms and provide the most likely chance of successful outreach.
- b. Good characteristics might include
  - Respect for participants
  - Interest in the ideas of all participants
  - Ability to listen to the participants
- c. Negative characteristics might include
  - Insulting manner and words
  - "Talking down" approach to participants
  - Domineering manner
  - Unwillingness to entertain ideas or questions
- d. Close the session by asking the participants which facilitator they would most like to learn from or be guided by, and which type they would most like to be. Facilitate a discussion with participants about why they think people act in each of the ways that was presented and what actions they think they can take if they see or exhibit this type of behavior. Ask participants to take into consideration specific cultural nuances in the discussion both about why people do things and what can be done about certain

behaviors. Ask them to be specific, pointing to the behaviors of government officials versus community members, for example.





## Session 10:

# Analysis Exercise

### Overview

This session helps participants practice and reinforce their community mapmaking skills.

### Objectives

By the end of the session, the participants will be able to better apply the concepts introduced during day one, including vulnerabilities, hazards, risks, and human and physical resources.

### Time

2.5 hours

### Materials

One card per participant with words or drawings of vulnerabilities, risks, hazards, and resources:

- Vulnerabilities—house near river, corn planted on unstabilized/steep hillside, treeless watershed
- Risk—landslides, dam
- Hazards—volcanoes, typhoon, flood
- Physical resources—rowboat, shovel
- Human resources—nurse, sports team

Participant Workbook

Blank flip chart, markers

### Delivery

#### Step 1. Review of Definitions Game

- a. Give each participant a card with a word or drawing representing a vulnerability, hazard, risk, human resource, or physical resource. Instruct the group to form five smaller groups that reflect what their words represent. Give them time to do this.
- b. Ask each group to describe itself. Show them the definitions on the flip chart. Confusion often exists between hazards and risks, and in fact an event such as heavy rains can be interpreted as both a hazard and a risk. If participants are confused, explain that there is overlap in some cases, but the most important objective of this and the following activities is to give participants a better understanding of the dangers they face and the resources they have to combat those dangers.
- c. Ask which group formed first. The first group to form itself correctly wins the game.

#### Step 2. Analysis Exercise

- a. Divide participants into five groups. Assign each group a different topic: vulnerability, hazard, risk, human resource, or physical resource. Ask them to analyze the place

- where the workshop is being held\*, making note of anything that applies to their topic and depicting it on a rough map or sketch of the site. Refer the participants to pages 13, 17, and 18 in their Workbooks. Tell participants that there is a worksheet for the exercise on page 30 of the Workbook. Tell them that they will have one hour to complete the analysis and plan a presentation to the rest of the group.
- b. Allow approximately one hour to complete the analysis.
  - c. Have each group present their findings. Clarify any questions and identify any links to similar activities that could be carried out at the community level, such as networking with local or political organizations in the communities that can help identify and provide the information above.

\*If appropriate, participants need to consider developing a model community that is representative of the community where they live.

## Resources

The following specific resources would be helpful as background to this session.

Anderson, M.B., and Woodrow, P.J. *Rising From the Ashes; Development Strategies in Times of Disaster*. Boulder, CO: Lynne Rienner Publishers, Inc., 1998. (ICE number CD056)

Materials on individual disasters in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*.

## Session 11:

# Family Preparedness Plans

### Overview

This session helps participants be better prepared for emergencies and disasters at the family level. The Volunteer Handbook and Emergency Action Plan (EAP) contain information important to this session.

### Objectives

By the end of the session, the participants will be able to:

1. Explore ideas about how to be better prepared to deal with emergencies and disasters at the family level.
2. Identify measures that can be taken to prevent disasters at home.

### Time

45 minutes

### Materials

Situation cards (two copies of each)

Copies of the Red Cross pamphlet entitled *Family Emergency Plan* (optional)

One copy of the EAP for each participant, if they have not already been distributed

Volunteer Handbook, for each Volunteer

Flip chart, markers

### Preparation

Information from *Disaster Preparedness and Mitigation PST Module* Part Two, Session 2: **Community Risk Analysis and Mapping**, as well as the disaster-specific materials in Appendix 2: *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions* are relevant to this part of the IST. The trainer should review that part of the PST and draw from relevant information presented there. Additionally, in part of this session, a co-facilitator is needed. If only one person has been facilitating, it will be necessary to have an assistant trainer, such as another Peace Corps staff person. That person should not be a participant in the training.

Locate copies of the Red Cross pamphlet from the nearest Red Cross source.

### Delivery

#### Step 1. Introduction

Introduce the activity by asking the participants who the most important people in their lives are. (*Most likely family members: children, spouses, parents, etc.*) Then ask who they are most likely to want to protect in the face of a hazard. (*The same individuals.*) Ask them what

would be the best way to be prepared at the family level. *(With a family emergency plan.)*  
Finally, tell them that in this session they will put together a family emergency plan.

**Step 2. Group Task: Family Action Plans**

- a. Ask the participants to divide themselves into six groups.
- b. Tell them that each group represents a family, and will receive a description of a situation that their families might face.
  1. Each family first needs to discuss the situation and the options they have to resolve it.
  2. Then prepare a dramatization about their situation to be presented to the rest of the group.
  3. They will have 15 minutes to discuss their situation and prepare their presentations, and then three minutes per group to present.
- c. Distribute the family situations below, giving each situation to two groups, and ask them to start to work. Trainers should circulate as the participants work.

***Family Situations*****Situation #1**

Your house is located on the riverbank. It is 10 p.m. It has been raining nonstop for three days, and the river has risen quite high. There is a good possibility that tonight the river will flood your house. What would you do? Be specific.

**Situation #2**

Your family lives in a house that is not “hurricane resistant” and yet a hurricane is expected to hit within one day. What would you do? Be specific.

**Situation #3**

If you knew that a major storm was going to affect your area and cut off access to your town for a week, what would you do in order to be prepared at the family level? Be specific.

**Situation #4**

A fairly severe earthquake has hit. You are not at home, but a family member is. What would you do. Be specific.

**Step 3. Presentation of Actions**

- a. Have the participants regroup into two large groups made up of members of each family from Situations 1 to 4 in each group. A co-facilitator should attend to one of the groups.
- b. Have each family give their presentation. After each one, ask the group that was watching to describe the scenario. Then ask: “Are there any questions? Does anyone have anything to add? Would you handle this situation the same way? Differently?”

- c. After the last presentation is given, ask the following question: “What should be included in a family emergency plan?” List the answers on the flip chart.
- d. Reconvene the large group. Have each group present their list of ideas of what to include in a family emergency plan.

**Step 4. Closure**

- a. Close this activity by asking the following questions:
  - 1. What did you learn from this activity?
  - 2. What was the most important learning for you personally?
  - 3. Are there any related issues that anyone wants to discuss?
- b. Distribute copies of the Red Cross pamphlet entitled *Family Emergency Plan*, if available.

## *Session 12:*

# *Formal In–Country Disaster Agencies and Organizations*

### **Overview**

This session provides an overview of formal agencies and organizations that deal with disaster preparedness and mitigation. The intent is to give participants a sense of what currently exists and with whom they can work to address DPM efforts at the community level. If there is no agency in the host country that focuses on these issues, the trainer, drawing on in–country resources such as government officials or community members, should use this time to identify and address a framework for organizing emergency responses at the community level. The trainers may wish to introduce such a framework, or provide the basic structure for it to which the participants add. Either way, this framework is key for carrying out later sessions and activities, for the content and design of the Participant Workbook, and for follow–up work done by the participants in their communities.

### **Objectives**

By the end of the session, the participants will be able to:

1. Identify the legal framework and historical background of the in–country agency that deals with DPM.
2. Describe existing local municipal and local emergency agencies and how they are organized.
3. Describe other relevant in–country agencies or structures, their functions, and basic requirements.

### **Time**

1.5 hours

### **Materials**

Flip chart, markers

Handout on in–country agencies and organizations involved with DPM

### **Preparation**

Prior to this session, the trainer should contact in–country government and community organizations and have them supply a speaker or resource person who can describe and provide a handout of the existing structures and activities available for DPM.

## Delivery

This activity is led by a host country representative when formal institutions exist to address DPM, and by the trainer and perhaps a country representative if there is no formal agency in place. The session leader should be sure to include available information about

- The historical background of the relevant agencies.
- The legal framework of the agency and related organizations or structures.
- A description of municipal and local emergency committees.
- Any steps that have been taken to prepare for a disaster or an emergency situation.
- The anticipated community response to a disaster.
- Any lessons learned from previous disasters.



## Session 13:

# Community Disaster Preparedness Plan (a): During

### Overview

This session allows the participants to take part in a disaster simulation that will help them learn to develop emergency plans.

### Objectives

By the end of the session, the participants will be able to:

1. Simulate community response to an emergency situation.
2. Define the responsibilities of a specialized existing agency or organization during an emergency or identify an appropriate community response.
3. Emphasize the importance of having a plan in place before an emergency.

### Time

1 hour

### Materials

Participant Workbook

Signs of community roles:

- Mayor
- Commission members
- Community members

Map of imaginary community

Prepared flip charts:

- An Important Message
- Mayor's Prepared Announcement
- Roles for the Members of the Long Road Municipal Emergency Committee

Flip chart and markers

### Preparation

The trainer should review the flip charts in this session to see if they are country appropriate. If other types of disasters are more common to the host country, the trainer should change An Important Message and Mayor's Prepared Announcement to reflect country realities and conditions. Likewise, the trainer should review the roles presented in Roles for the Members of the Long Road Municipal Emergency Committee and change them as needed to ensure they are culturally appropriate.



## Delivery

### Step 1. Introduction

- a. Introduce this session by noting that the group has so far covered a lot of ground, having to this point discussed
  - Different kinds of disasters
  - Experiences during disasters
  - How to analyze risks and hazards
  - How to complete a community resource inventory
  - What to include in a family emergency plan
  - Activities that a community can carry out prior to emergencies to be better prepared.
- b. Tell the participants that the information covered so far will help them in this session, which focuses on developing Community Preparedness Plans.

### Step 2. Simulation

- a. Tell the participants that they will be participating in a simulation and give them the following information and materials:
  - All workshop participants are now members of a community called Long Road.
  - Each participant has a role in the community. (The trainer assigns roles to participants at this point. See *Roles for the Members of the Long Road Municipal Emergency Committee* at end of session.)
  - Each participant receives a sign, which they are to tape or pin to their chests.
- b. Ask the participants to pay close attention to the following announcements: Read the Important Message announcement and have the person designated as Mayor read the Mayor's Prepared Announcement.

#### ***Important Message***

Attention, attention, one and all! This is an important message for all the residents of Long Road. You are hereby advised that within the next few hours, because of the heavy rains that have been falling for the last week, we are expecting massive flooding. Bad River is rising quickly. I repeat: There will be massive flooding within the next few hours. The Mayor is hereby notifying all members of the Municipal Emergency Committee that a committee meeting will begin immediately. Report immediately to the Mayor's office.

**Mayor's Prepared Announcement**

Good day, ladies and gentlemen, members of the Long Road Municipal Emergency Committee. We are meeting here today to talk about the emergency that is fast approaching.

Government officials and meteorologists from the region have issued warnings that within hours there will be massive flooding throughout the region.

In my capacity of Mayor, I am hereby declaring a red alert. The municipal offices are, as of now, converted to the Emergency Operations Center and I, your Mayor and President of the Municipal Emergency Committee, must approve all decisions related to the emergency.

Time is of the essence. As soon as we break, each Commission will meet and 20 minutes from now, we will all return here so that each Commission can present the detailed emergency plans that they intend to implement during the emergency to the Mayor and the community.

Remember, the safety and well-being of every member of Long Road depends on you. We are on our own and can expect no outside help for some time.

- c. Ask the participants portraying the Commissions to get together to discuss what needs to be done immediately and in the short term to deal with the existing situation while the trainer and the Mayor walk around to listen. Tell participants they may use information in their Workbooks if they have questions or concerns that arise in their groups.
- d. Have the Commissions report to the Mayor and the community members to answer further questions and doubts. Participants should answer questions in their roles, rather than the trainer answering them.

**Step 3. Debrief**

- a. Tell everyone to move out of their role and take seats.
- b. Wrap up by asking
  - 1. What was the result of the different activities and commissions? (*A Community Action Plan for the DURING phase of an emergency or disaster or conflicting ideas and no concrete plans*).
  - 2. What information moved the process forward? (*Specific ideas, identification of resources*)
  - 3. What hindered the process?
  - 4. What is the name for what just took place during the training, when the group made believe they were in a disaster situation and made necessary decisions and plans about how to face it? (*A simulation.*)
- c. Note that developing a Community Emergency Action Plan and conducting simulations are two fundamental elements of community disaster preparedness, and that, without a

plan, no one knows what to do during an emergency. Without a simulation, no one knows if the people can do what they need to do and if the activities they have in the plan are going to work.

#### Step 4. Closure

- a. Close this session by asking the following questions:
  - What did you think of this activity?
  - Did you enjoy it?
  - Was it difficult?
  - Were you prepared for the emergency? (*more or less, not really*)
  - What can we do in our communities to be better prepared for emergencies? (*Know before the emergency or disaster strikes what each person's responsibilities are. Have already created the Community Emergency Action Plan. Practiced the plan through simulations. Conducted other related activities.*)
- b. Finally, note that planning is the key to effective DPM. The planning process includes a clear delineation and understanding of roles, responsibilities, what needs to happen, and what will happen. Finally, ask when planning takes place in the Disaster Cycle: as a part of the BEFORE, DURING or AFTER phase? (*Before.*) Note that the BEFORE phase—the most important phase for any community as it prepares to face disasters and emergencies—will be discussed in more detail during the next activity.



## Trainer List

### ***Roles for the Members of the Long Road Municipal Emergency Committee***

#### **Mayor**

#### **Health Commission**

Coordinator: Doctor  
 Collaborators: Health Promoter  
 Midwife  
 Housewife  
 Nurse

#### **Education Commission**

Coordinator: Primary School Director  
 Collaborators: President of the Environmental Club  
 High School Teacher  
 Primary School Teacher  
 High School Secretary  
 Peace Corps Volunteer

#### **Logistics Commission**

Coordinator: Bus Owner  
 Collaborators: Religious Leader from One Religious Group  
 Religious Leader from Another Religious Group  
 Housewife  
 Small Storeowner  
 Local Representative of World Vision

#### **Rescue and Evacuation Commission**

Coordinator: Sports Team Coach  
 Collaborators: Farmer  
 Rancher  
 Sports Team Member

#### **Security Commission**

Coordinator: Justice of the Peace  
 Collaborators: Police Officer  
 Telephone Operator  
 Physical Education Teacher

**Other possible roles:** President of the Savings and Loan Cooperative, Director of the Civil Registry Office, President of the Civilian Council, Truck Owner, Agricultural Extension Agent.

### ***Sample label for a participant***

Primary School Director

**Coordinator: Education Commission**

## Session 14:

# Community Disaster Preparedness Plan (b): Before

### Overview

This session focuses on the preparation that is needed BEFORE a hazard hits. It allows the participants to consider the What, Why, How, Where, Who and When of the development of a Community Emergency Action Plan.

### Objectives

By the end of the session, the participants will be able to:

1. Present an example of what a thorough Community Emergency Action Plan might look like.
2. Present a rough draft of BEFORE activities for each Commission of the Emergency Committee.

### Time

1 hour

### Materials

Participant Workbook

Prepared flip chart:

- Community Emergency Action Plan: Before

Large ball

### Preparation

Before this session, the trainer should have contacted various government and community organizations and identified a resource person from the host country who can 1) provide information on existing organizations and the DPM activities that the organizations perform; or 2) provide guidance on a likely scenario if there are no institutions in the host country dealing with DPM.

The trainer may find it useful to have this person present during the session. At the beginning of the session, the trainer can introduce the resource person and describe his or her position. Additionally, the trainer can give the resource person a specific role for the activity, which also should be explained to the participants. For example: “Mr. Hernandez will answer any questions you have about existing DPM organizations and procedures later in this activity.” Finally, the trainer should allow time at the end of the session for the resource person to answer any additional questions from the group.

## Delivery

### Step 1. Introduction

- a. Ask the participants if they felt prepared in the last activity (the community simulation). Ask them in what ways they were ready or not ready. Reiterate the importance of the Emergency Action Plans and simulations.
- b. Explain that during this session, they will be thinking more about all the things they can do today that will benefit their communities in the long term. Remind them of the previous activities that focused on exploring the relationship between disasters, poverty and vulnerability, and helped them identify the actions that can be taken now to reduce the future vulnerability of communities (Part One, Session 6: **Hazards and Risks in Our Communities**, and Session 7: **Resources and Strengths in Our Communities**)

### Step 2. Before Phase Matrix

- a. Note that all of the activities such as reforestation, education, and strengthening buildings are a fundamental part of the BEFORE phase of the disaster cycle, and of the development of community plans. Stress that the BEFORE phase includes many activities, both long- and short-term, and involves many community members.
- a. Draw a matrix (like the one below, but without the example) with which the group can develop an action plan for a BEFORE phase activity. Ask the participants to take the next few minutes with you to identify an activity that could be included in the BEFORE part of a community plan and then they suggest how to fill out the matrix (example is below).

### BEFORE Phase Community Plan Activity

What?	Why?	How?	Where?	Who?	When?
Organize a simulation with members of the Municipal Emergency Committee	To practice, better define roles and responsibilities	Present the idea to the Mayor	Town hall	Marcos and Virginia (workshop participants)	15 June
	To identify weaknesses in the plan and make adjustments	Prepare the script for the simulation	Marcos' house	Marcos and Virginia	11–20 June
		Notify members of the Emergency Committee of the activity and the date with a note signed by the Mayor.	Throughout the community	Marcos, Virginia, municipal secretary	16–22 June

- c. When completed, review the BEFORE Phase Community Plan Activity to be sure that the parts relate to one another and that nothing critical has been forgotten. Ask them if they think it necessary to answer all six questions. Why or why not? After the discussion, remind participants that they will be focusing on the hazards and vulnerabilities in their communities when they return there. Ask if there are any questions.

### **Step 3. Community–Specific Activities**

- a. Explain that to prepare for work in their communities, they need to consider appropriate community–specific activities and disaster scenarios. Ask them to look at pages 36 to 40 of their Workbooks for samples of activities that could be included in a BEFORE plan.
- b. After they have reviewed the material, ask if they think any of the ideas in the Workbook would be useful to their communities. If so, which ones? Then, ask if they have other ideas of what might be useful and how they would apply them.

### **Step 4. Long– and Short–Term Prevention and Preparation**

- a. Tell the participants that the next activity involves thinking about how they can best work with other people from their community or from neighboring communities. Tell them that they have 25 minutes to complete the following tasks:
  1. In the large group, brainstorm and list long– and short–term prevention and preparation ideas that can be carried out in their community during the BEFORE phase. Stress that each community is different and that they should be realistic about what would be feasible. Have them record all the different ideas in their Workbooks.
  2. Ask participants to open their Workbooks to page 41 and, using the activities listed on pages 41, 43, 45, 47, and 49, have them identify at least one activity for each Commission—both long–term and short–term—as you list them on a flip chart.
- b. Tell them that they will be asked to share their information with the entire group.

### **Step 5. Conclusion**

- a. Conclude this session by asking the participants how they think their group work went. Did they finish? If not, tell them you recognize that it is a lot of work, and takes time. Tell them that completing this activity in their communities will probably take more time and will require a good deal of input from other community members to complete.
- b. Explain that each person is going to be given a chance to identify one activity that can be done during the BEFORE phase. Ask them to stand with their groups. Get out the large ball and tell the participants that whoever catches the ball needs to provide one BEFORE activity, and then sit down so that all have a chance to share their ideas. Toss the ball while someone records all of the answers until all are seated. Review the responses and congratulate them on their work.

## Session 15:

# Community DPM Follow–Up Plan

### Overview

This session helps participants start planning for the actual DPM work they will do in their communities.

### Objectives

By the end of the session, the participants will be able to:

1. Underscore the importance of the community as the primary resource for its members in disasters and emergencies.
2. Design a plan of DPM activities they will carry out in their communities before the Follow–Up Workshop.

### Time

1.5 hours

### Materials

Workbooks

Paper, pens

Prepared flip chart

- The challenge is to share learning with others and motivate neighbors to complete the Community Emergency Action Plan

Blank flip chart and markers

### Preparations

The trainer should duplicate the format of page 52 of the Participant Workbook on the flip chart so that information can be recorded as provided by the participants.

### Delivery

#### Step 1. Introduction

Tell the participants that they have now arrived at the most important point of this workshop, when we ask the questions: Now what? What are we going to learn about/do with our communities? When we reconvene in six weeks, what are we going to tell each other?

#### Step 2. Potential Activities

Ask them to open their Workbooks to page 52, and ask someone to read it aloud. Ask them to call out the ideas they have to share information, to motivate community members, for activities to conduct in the community, while the trainer notes these ideas on the flip chart. Ask them to record these ideas in their Workbooks on page 52.



**Step 3. Planning by Community Group**

- a. Ask the participants to gather by community group and, after the group as a whole reviews the content of Workbook pages 53 and 54, complete those pages in the order of how the activities happen. During the review, emphasize the importance of each of the columns.
- b. Tell the participants to be realistic in their plans and to turn in a copy of their ideas to you at the end of the session so that you can review them and provide feedback.

**Step 4. Sharing the Plans**

- a. When the group reconvenes, ask them to share the ideas that have been generated.
- b. Congratulate the participants on a job well done.
- c. Note that this classroom exercise should be taken back to their communities to be validated or updated. Then they will actually carry out some of the activities with the community.
- d. Review the schedule for the rest of the training.



*FOLLOW-UP PLAN FOR THE COMMUNITY OF:* \_\_\_\_\_

**REPRESENTATIVES:** \_\_\_\_\_  
\_\_\_\_\_

ACTIVITY	WITH WHOM?	WHEN?	COMMENTS

**(Samples from Honduras)****Soledad, EP**

<b>ACTIVITY</b>	<b>WITH WHOM?</b>	<b>WHEN?</b>	<b>PURPOSE/OTHER COMMENTS</b>
Convocation by the Mayor	Village and subvillage local emergency committee representatives	February 1	Inform them about work done in Choluteca workshop
Community meeting in the municipal headquarters	With members of village and subvillage representatives	February 15	Review of the different activities each committee should carry out
Plan the current year	Committee members	February 28	Year 2000 activities
Put gabions along bend in river above town	Road crew/Volunteers and committee members	Dry season	Protect town from flooding

**Monjarás, Marcovia**

<b>ACTIVITY</b>	<b>WITH WHOM?</b>	<b>WHEN?</b>	<b>PURPOSE/OTHER COMMENTS</b>
Meeting with the Local Emergency Committee	Local Emergency Committee	February 2	Share information
Visit the Mayor of Marcovia	President of Local Emergency Committee	February 11	Motivate Mayor to support effort to organize and train committees in the villages
Draw risk and community information map	Committee members	February 22	

## *Session 16:*

# *Closing and Evaluation*

### **Overview**

This session provides closure for Part One of the workshop.

### **Objectives**

By the end of the session, the participants will be able to:

1. Put closure on the workshop and be motivated to continue working during the follow-up period between workshops.
2. Evaluate the workshop.

### **Time**

1 hour

### **Materials**

Participant Workbook

Empty folder

Prepared flip chart:

- Listing of the Part One sessions

### **Delivery**

#### **Step 1. Review**

Tell the participants that you would like them to conduct a brief review of Part One of the IST by looking at the list of sessions on the flip chart that were conducted during Part One of the IST and then having one person in turn from the individual community groups recall, to the extent possible, the information on the specific subject and note what was important to them about that specific part of the training. Go around from one group to the next until all of the training sessions are covered.

#### **Step 2. Next Workshop**

Stress to the participants that the end of the training has come, but that they are just at the beginning of their work in disaster preparedness. Remind them that there is much to do upon returning to their communities. Thank them for the work that they have done during the past two days. Tell them that you think their plans are good. Repeat the dates and times of the follow-up workshop, and write them on a flip chart. Ask if there are any final comments or questions.

#### **Step 3. Evaluation**

Ask participants to fill out the evaluation form at the end of the Workbook. The evaluation is very important to the Peace Corps in that it will help improve the workshop for other groups,

as well as improve the follow-up workshop. They do not have to put their names on the evaluations. Put their completed evaluations in the folder when they are finished. Wish them success in carrying out their plans and tell them that you will see them at the next workshop.



## **Part Two:**

# **The Role of the Volunteer in Disaster Preparedness and Mitigation**

### *Introduction*

This section introduces the principal aspects of community disaster preparedness. It also examines the various types of possible responses.

### *Summary of Sessions*

This section provides a follow-up to Part One of the workshop. It gives a chance for the participants to hone community planning and activity skills. It reinforces the ability of the participants to play an important and active role in their communities in the area of DPM.

### *When Should These Sessions Be Conducted?*

Determination of when to hold Part Two of the IST depends on a number of factors. These include the likelihood and frequency of natural hazards in the host country, the time of year when these hazards may occur, and the number of Volunteers with previous DPM experience. Logistical considerations, such as space availability and when the training participants can all be at that place at the same time, also play a part. It will be up to the trainer, in conjunction with the country Peace Corps director and/or appropriate APCDs, to determine the timing of this follow up In-Service Training.



## Session 1:

# Preparation for Achievements, Activities, and Obstacles

## Overview

This session reacquaints participants and helps them see what they have been able to accomplish in their communities, as well as the barriers they have discovered and the lessons they have learned, so that they will be able to redirect their efforts as needed and be more successful in their DPM work.

## Objectives

By the end of the session, participants will have:

1. Become reacquainted.
2. Established an open and productive work environment.
3. Completed worksheets reporting on work accomplished since initial workshop.

## Time

1 hour

## Materials

Handout

- *Achievements, Activities, and Obstacles Worksheet*
- *Samples from Different Communities*

Prepared flip charts:

- Instructions for introductory exercise
- Community Group Follow-Up Plans

Follow-up plan submitted from initial workshop for each participating community

Nametags with the names and towns of participants

Blank flip chart paper (enough sheets for all the groups), markers, tape

## Staff

The trainer should decide beforehand if there will be a co-facilitator for the length of the training or whether a participant helper will be used in the various activities that call for an assistant.

## Delivery

### Step 1. Welcome

Welcome participants and encourage everyone to participate fully in the workshop so that they learn as much as possible from it. Remind them of how important the workshop is to their safety and the safety of their communities.

## Step 2. Introduction

- a. Reveal the instructions for the introductory exercise and tell participants that the first exercise enables them to be reintroduced to each other.
- b. Have the participants pick out a nametag other than their own from a box. Begin the exercise.

### ***Introductory Exercise***

1. Take a nametag other than your own from the box.
2. Find the person whose nametag you have.
3. Find out something new about this person.
4. Afterwards, pin the person's nametag on him or her.

- c. Explain that each person will now introduce the person whose nametag they drew from the box. The introduction should include the person's name, their town, and something new about them. The facilitator begins.

### ***Sample Introduction***

"I would like to reintroduce you all to José from Big River. Something new I learned about José is that his favorite food is fried bananas."

- d. Then "José" introduces the person whose nametag he selected, and the introductions continue until everyone has been introduced.

## Step 3. Review of Community Work

- a. Tell the participants that you would like to start out with a brief review of their accomplishments so far in the training and in their communities. Tell them that you would like five participants to volunteer to outline some of these accomplishments. (If Volunteers are not forthcoming, provide some prompts, e.g., how did the plans you made at the close of Part One of the training work out? Did you find that you were able to apply what you had learned?)
- b. Tell participants that you realize they have put a lot of effort into meeting their goals, but problems and obstacles have probably presented themselves as well, affecting their ability to complete their work. Tell them that the activities scheduled for the following day will allow them to learn from one another in both their successes and their challenges in their attempts to promote disaster preparedness in communities. Reveal and discuss an example on the flip chart.



***Example of Barrier and Lesson Learned***

- Participant planned community activity: a session with all the primary school teachers.
- Barrier: school year just started and the teachers were busy with other activities.
- Lesson: it is important to appropriately time work desired with schools.
- Recommendations:

- c. Display the Follow Up Plans on the prepared flip charts completed by each group at the end of the initial workshop, and distribute copies of the *Achievements, Activities, and Obstacles* worksheet, the *Examples from Different Communities* handout and flip chart paper on which participants can write. Based on what they had planned in the Follow-Up Plans from the last workshop, ask each community group to use the worksheet to describe what they have done since the last workshop, and compare it to what had been described in their Follow-Up Plans.
- d. After participants have completed their handouts, ask them to copy that information on the flip chart. Ask the participants to give you the handout when they are finished and bring the completed flip chart sheets back with them in the morning. As the participants fill out their worksheets, make yourself available to answer any questions.

*Handout*

*Achievements, Activities, and Obstacles Worksheet*

\_\_\_\_\_  
(Community)

\_\_\_\_\_  
(Represented by)

Achievements and Activities:

Obstacles:

Lessons Learned:

*Handout*  
*Page 1 of 3*

## *Sample Worksheets from Different Communities*

---

***Nueva Armenia, Francisco Morazán, Honduras***  
(Community)

**Achievements and Activities**

1. We met with the Mayor and asked if the town had an Emergency Action Plan.
2. We got the copy of the plan, with the list of members of the municipal Emergency Committee.
3. We went to the village of Barajana to observe the damage done there by Hurricane Mitch.
4. We went to the Barajana water source for the new water system.
5. We completed risk maps of Barajana and of the town of Nueva Armenia.

**Obstacles**

1. Transportation to the villages.
2. The Mayor is only in town one day a week.

**Lessons Learned**

1. We made new friends and colleagues, and got to know the town better.
  2. We found out the needs of the villages.
  3. We met all the members of the Emergency Committee.
  4. We got to know the displaced people of Barajana.
- 

***El Carbón, Olancho***  
(Community)

**Achievements and Activities**

1. We met with the Mayor regarding water systems.
2. We met with the community leaders (e.g., women's group, community council, tribal council) to form the Emergency Committee.
3. We completed the community map and the risk map.

**Obstacles**

Reluctance of community members to join the Emergency Committee; only a partial committee exists, and there seems to be little interest in joining on the part of many others.

**Lessons Learned**

1. We need to ensure that a wide range of community members are sought out and given information so that they feel like they are a part of the process and can make educated decisions about it.
2. We will need support from other institutions.



*Handout*  
*Page 2 of 3*

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***Soledad, El Paraíso***

(Community)

**Achievements and Activities**

The Mayor held a meeting with representatives of all 29 villages to report on workshop and need for village-level Community Emergency Plans.

**Obstacles**

1. Incomplete attendance.
2. Many of the communities are isolated.
3. It will be a challenge for every village to organize their Emergency Committees.

**Lessons Learned**

1. Each village is responsible for being prepared for disasters.
  2. When disaster strikes, people can only depend on themselves.
- 

***Monjarás, Marcovia, Choluteca***

(Community)

**Achievements and Activities**

1. Met with the Mayor.
2. Met with the Emergency Committee.
3. Planned workshop for the Emergency Committee members.

**Obstacles**

1. Low turnout at the Emergency Committee meeting due to work commitments.
2. The risk map still is not complete.

**Lessons Learned**

We sparked interest in the Emergency Committee members because they requested the workshop, which we will hold in the evening so that the members can attend after work.

## Session 2:

# Review of Basic Concepts

### Overview

The purpose of this exercise is to review the activities that should occur in each community to prepare for the possibility of a hazard.

### Objectives

By the end of the session, participants will have:

1. Improved their understanding of key concepts introduced during the initial workshop.
2. Identified different activities that can be included in Community Emergency Action Plans.

### Time

1 hour

### Materials

Handouts

- “Bingo” cards

Trainer List: Items for “Bingo”

### Preparation

The trainer should identify in advance whether an equivalent of a Community Emergency Committee (CEC) exists (in the host country), and, if it does, what committees are represented on it. Then, the trainer needs to revise the bingo game accordingly. Additionally, it is best to decide the order in which clues are to be revealed in the game to present the largest number of clues possible so as to provide enough clues to complete the game without stretching it out unnecessarily.

### Delivery

#### Step 1. Introduction

Introduce this session by telling the participants this activity will review the functions of different committees that can form a CEC. The main objective of this activity is to help them recall activities for the BEFORE, DURING, and AFTER phases of emergencies or disasters that might occur in their communities, although the emphasis here is on BEFORE. Tell participants that some communities might not have a CEC. If they do, the CEC would be made up of some but not all of the committees that exist in most communities: education, health, agriculture, rescue and evacuation, logistics, and security. The game we will play is based on the system here [specific country].

**Step 2. Game**

Introduce the game, Disaster Bingo.

- a. Provide each community group with a Bingo card.
- b. Go over the card with the participants and point out the five columns on the card, one for each of the commissions that make up the Emergency Committee.
- c. Tell the participants:
  - The Bingo activities and clues will be read aloud.
  - The co-facilitator will write each activity and clue on the board for reference.
  - Each activity has a number.
  - If the activity and clue correspond to a Bingo card, the person holding that card should write the number of the activity and clue in the corresponding square on their card.
  - Not all Bingo cards are the same. Participants need to pay attention to their cards.
  - Some clues may apply to more than one committee, and may apply to more than one phase of a disaster (BEFORE, DURING, and AFTER).
- d. Give an example using a flip chart.

***Bingo Clue Example*****Activity 1: Provide First Aid****Clues**

- a. Which commission is in charge of providing first aid? (*Rescue and Evacuation Committee*)
- b. When is first aid given? (*DURING or AFTER the emergency*)
- c. Would it be possible for first aid to be a job for one of the other commissions as well? (*Health*)

Participants could mark the number 1 on their card in one of four squares:

1. Rescue and Evacuation, DURING.
2. Rescue and Evacuation, AFTER.
3. Health, DURING.
4. Health, AFTER.

- e. Ask if there are any questions and tell the participants that it is okay if questions come up during the game. Discussion of activities is good, as they will all learn. Tell them that the first group to fill up their card wins. Throughout the game, the trainer should encourage the participants to register differences of opinion and talk about the phases of the Disaster Cycle as well as appropriate activities for the different commissions so that lively discussions ensue. Each participant should be given a prize by the end of the game, regardless of whether they have “won.”

- f. The facilitator should read the activities and clues, one by one, slowly. The co-facilitator should write them on the flip chart, or reveal them one by one from a previously prepared flip chart as they are read.
- g. Continue playing until there is a winner. When the first team calls out BINGO, the facilitator should ask them to come up front and read their results. If an answer is incorrect, the facilitator should ask the group if anyone has a different answer.

### **Step 3. Summary**

Ask participants what new things they have learned during the session. Did they like the game format?



*Trainer List**Page 1 of 2**Items for Disaster Bingo*

#	Activity	Answers	
1	Provide first aid	R & E R & E Health Health	During After During After
2	Participate in Independence Day Parade carrying banners about disaster prevention	Education	Before
3	Distribute water to shelters	Logistics	During
4	Conduct vaccination campaigns	Health Health Health	Before During After
5	Promote anti-litter and clean-up campaigns	Health Health Education Education	Before After Before After
6	Inventory evacuation resources	R & E	Before
7	Educate schoolchildren's parent's association regarding actions to take before, during and after a disaster	Education	Before
8	Epidemiological surveillance	Health	During
9	Sanitary control of food and meals in shelters	Health	During
10	Give talks to schoolchildren about family and school emergency plans	Education	Before
11	Coordinate with other commissions to ensure basic hygiene standards are met in the shelters	Health	During
12	Promote and implement latrine construction projects	Health Health	Before After
13	Stock first aid kits	Health Health	Before After
14	Provide trained security staff to maintain safety and order in the shelters	Security	During
15	Continue guarding donated foods and other relief materials	Security	After
16	Rehabilitate educational facilities affected by the disaster/emergency	Education	After
17	Provide security to the search and rescue teams	Security	During
18	Promote school first aid kit projects	Health	Before
19	Inform community members about the steps to take during an emergency or disaster situation	Education	Before
20	Search for missing persons	R & E	During



*Trainer List**Page 2 of 2*

21	Educate and raise consciousness regarding hazards	Education	Before
22	Train members of this commission in first aid, in coordination with local Red Cross	R & E	Before
23	Devise plan for maintaining communication with outlying villages during emergency situations	Security	Before
24	Identify emergency evacuation routes from the community and vulnerable sites	R & E	Before
25	Maintain contact and strengthen relationship with police while planning emergency responses	Security	Before
26	Identify centers for storage and distribution of relief aid	Logistics	Before
27	Inventory security resources	Security	Before
28	Provide medical attention to sick and injured people	Health Health	During After
29	Distribute medicine to emergency shelters	Logistics	During
30	Evacuate people from homes in vulnerable areas	R & E	During
31	Maintain contact with the Red Cross to take advantage of training and workshops offered	R & E	Before
32	Inventory all available means of transportation	Logistics	Before
33	Receive and distribute aid which arrives after the emergency	Logistics	After
34	Provide guards and security to affected areas	Security	During
35	Plan and implement disaster simulations	Education	Before
36	Train people how to purify water	Health	Before
37	Conduct a census of the affected population	Education	After
38	Select areas and buildings to be used as shelters	Logistics	Before
39	Maintain law and order	Security	After
40	Rehabilitate health centers	Health	After
41	Update population census of city and outlying villages	Education	Before
42	Design a plan for BEFORE, DURING and AFTER emergencies and disasters	R & E Health Security Logistics Education	Before Before Before Before Before
43	Maintain records of those physically affected	Health	During
44	Transport displaced people to their new homes	Logistics	After
45	Complete report of activities carried out during an emergency or disaster	R & E Health Security Logistics Education	Before Before Before Before Before

Key: R &amp; E = rescue and evacuation.

## BINGO CARDS

EDUCATION COMMISSION	HEALTH COMMISSION	RESCUE AND EVACUATION COMMISSION	SECURITY COMMISSION	LOGISTICS COMMISSION
BEFORE	BEFORE	DURING	BEFORE	BEFORE
DURING	DURING	FREE  FREE  FREE	DURING	DURING
AFTER	AFTER	AFTER	AFTER	AFTER



## Session 3:

# Achievements, Activities, and Obstacles

### Overview

This session provides an opportunity for each participant to consider the work that they have done in their communities up to this point, expose them to new ways of looking at issues, and revise their thinking, as needed.

### Objectives

By the end of the session, participants will have:

1. Identified obstacles encountered during follow-up work.
2. Identified strategies for overcoming the obstacles.
3. Reviewed and enhanced their thinking about how to best carry out DPM activities in their communities.

### Time

1 hour, 45 minutes

### Materials

*Follow-Up Plans* and *Achievements, Activities, and Obstacles Worksheets* from each community  
Flip chart, markers, tape

### Preparation

Before this session, facilitators should carefully review the *Achievements, Activities, and Obstacles Worksheets* along with the *Follow-Up Plans* from the communities. The work groups in Step 1 should be identified based on the information from the first night's work. The trainer should look for combinations of participants that will foster learning from one another. For example, two groups that have encountered a similar obstacle can share how they responded to it. If one group seems disheartened, look for a group that will encourage and motivate them.

### Delivery

#### Step 1. Community Follow-Up Work

Introduce the session by commenting that some communities will have accomplished different things. Let the participants know that this time gives them a chance to discuss different aspects of working in communities so that they can get various perspectives. Break up the larger group into five to seven smaller groups made up of Volunteers and Counterparts from their communities.

### Step 2. Group Work

Instruct the participants to carry out the following tasks and summarize the information on a flip chart:

- a. Each person will share the follow–up activities carried out in their community between the two workshops, emphasizing their achievements.
- b. Each person will share the obstacles they encountered in working toward their goals.
- c. The group will discuss strategies for overcoming or avoiding such obstacles.
- d. Each person will share the lessons learned during the follow–up period.

### Step 3. Dramatization

- a. After sharing information and discussion, ask each group to plan a dramatization, to last no longer than five minutes, representing what they discussed and shared. Give the groups about 10 minutes to plan. While the participants are planning, post the flip chart copies of each community’s Achievements, Activities, and Obstacles around the meeting area.
- b. Give each group five minutes to give their presentations. After each presentation, ask the rest of the group:
  - What were the different activities and achievements we saw?
  - What were the obstacles that these people encountered?
  - How did they overcome these obstacles? (Be sure to write down the corrective strategy on the appropriate flip chart.)
  - What were the most important lessons learned?
- c. Congratulate the groups for their presentations and ask:
  - What did you learn from this activity?
  - Did the activity give you any new ideas of the work that is being done in different communities? If so, what?
  - Do you have any recommendations for this kind of activity in future workshops?

### Step 4. Closure

Close this activity by asking the participants to take the next 15 minutes to look at the sheets posted around the room. Ask them to record in their notebooks any ideas that they think might work in their community. Ask them to clarify any questions they have with their colleagues during the break.

## Session 4:

# Community Activities

### Overview

Past sessions provided an opportunity for participants to explore their accomplishments, the barriers that exist, and new ways of thinking about situations. This session gives participants an opportunity to focus, realistically and concretely, on what they can do when they return to their sites to continue their DPM work with and within their communities. Information presented in Appendix 3: *Appropriate Roles for Peace Corps Volunteers, by Type of Disaster*, is a good resource.

### Objectives

By the end of the session, the participants will:

1. Develop a list of activities that can be implemented at the community level to promote community disaster preparedness.
2. Identify techniques for motivating community members in DPM work.

### Time

2 hours

### Materials

Handout

- *Instructions for Small Group Tasks*

Flip chart and markers

### Preparation

The small group tasks in this session should be appropriate to the country, region, and communities of workshop participants. The trainer should adapt the tasks outlined in the exercises or come up with different ones more appropriate for the group, as necessary.

### Delivery

#### Step 1. Introduction

These first two steps should take about an hour. Introduce the session by noting that now that they have looked at the work they have already done in their communities, it is time now to look toward the future. Point out the responsibility that each participant has in continuing to motivate the members of their communities in DPM. Stress that the more ideas they are able to take back with them from this workshop, the more options they will have, and the more motivated they will be to keep on working. Tell them you recognize that there are obstacles to their work in DPM, but there are also many opportunities for them to make a difference.

### Step 2. Small Group Exercise

Split the larger group into five or six small groups. The trainer should try to place a primary school teacher in Group #1, and a high school teacher in Group #4, if possible. Tell each group that they will be getting a task. Tell participants that they will have some time to discuss their task, and decide on a fun and interesting way to present it to the rest of the group. Tell them that presentations should be no longer than five minutes. Distribute the instruction sheet to each group.

### Step 3. Presentations

- a. Have the groups make their presentations. After each one, analyze what was presented and ask for suggestions from the group.
- b. Distribute *Sample Community Activities from Honduras* handout. Suggest that the participants check off the ideas that are the most relevant to their communities and to keep the list.

### Step 4. Closure

Close the session by thanking everyone for their work, participation, and sharing. Ask them if they are getting the information they need.

*Handout*  
*Page 1 of 2*

## *Instructions for Small–Group Tasks*

### ***GROUP #1 Primary School***

When we are in primary school, we learn many things that will help us in the future. We learn to read, to write, to add and subtract, and how to get along with others. What can students learn in primary school about disasters and emergency preparedness?

**Group 1 Task:** Plan disaster preparedness activities that can be carried out in the primary schools of your communities and the surrounding villages. Be as detailed and complete as possible. In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #2 Flood Disaster Prevention Week***

In some countries, the government and other institutions have designated certain dates or weeks for educating and raising public consciousness about specific disaster issues, like hurricanes, flooding, or earthquakes. One example is “Hurricane Preparedness Week.” The purpose of these activities is to raise consciousness around the hazards people face, look for ways to be better prepared, and know how to respond in emergency situations.

**Group 2 Task:** Organize a week to raise public consciousness about flooding and its consequences. When would be the best time of year to do this? What could the week be named? What activities could be carried out? In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #3 Community Interest***

The goal of this workshop is to share the information learned here by taking it back to the community and nearby villages so that each one works on the development of an Emergency Action Plan. Between the two workshops, there has been a lot of work done to meet this challenge. How can we be certain we continue working on community DPM in the future, not only in the larger towns and municipalities, but also in the smaller villages?

**Group 3 Task:** Identify different ideas, activities, and techniques that you can use in the town and outlying villages to stimulate and maintain interest in DPM. How can more people be involved in this work? How can we transfer this information to people who do not read and write? In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #4 High School Group***

In high school, we increase our knowledge and prepare to be productive members of our communities. Today’s high school students are tomorrow’s leaders. How can we motivate high

## *Handout*

### *Page 2 of 2*

school students in DPM work? What can they learn about disasters and DPM? How can high school students participate in the different preparedness activities that take place?

**Group 4 Task:** Plan disaster preparedness activities that you and the students can carry out in the high school and the community. How can we motivate them to understand that part of their responsibility as tomorrow’s community leaders is DPM? In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #5 Annual Religion Event***

In many countries, specific religious holidays have civic manifestations. There may be religious ceremonies, parades, dances, street vendors and displays (fairs), and many other activities that bring the community together. How can we take advantage of the opportunities that such a fair provides to raise consciousness about DPM? How can the Emergency Committee participate in the fair?

**Group 5 Task:** Plan some non–religious DPM activities that can take place during the celebration of an annual fair. In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.

### ***GROUP #6 Deforestation***

The extraordinarily heavy rainfall accompanying Hurricane Mitch brought disastrous results to most of our communities. The deforestation of the mountains, hillsides, and watersheds contributed heavily to the landslides and flooding. We know that if we do not take care of our forests and watersheds, we will be at risk for more landslides and flooding in the future, as well as drought and increasing problems in growing enough crops to feed our families. Nevertheless, we continue cutting and burning and allowing the deterioration of forests and watersheds.

**Group 6 Task:** Analyze the issues of deforestation and watershed deterioration, identifying the “why’s” of this ongoing problem. Also, identify activities that could serve to change peoples’ attitudes and actions so that the forests and watersheds are no longer in danger. In addition to preparing a presentation that illustrates your ideas, write them on a sheet of flip chart paper.



*Handout*  
*Page 1 of 2*

## *Sample Community Activities from Honduras*

### **Group 1: Primary School Activities**

- Give short talks to students and teachers about disasters.
- Identification of hazards and risks.
- Work with the students to develop Family Emergency Plans with their parents and family members.
- Develop community and school emergency plans.
- Train teachers regarding Family Emergency Plans.
- Plan a simulation.
- Set up school evacuation routes.
- Give first aid talks and training.
- Incorporate disaster–related themes in the required curriculum.
- Draw a risk map and display it in the school.
- Carry out mitigation projects, e.g., tree nurseries.
- Teach swimming classes.
- Design campaigns, dramatizations, parades, etc.

### **Group 2: Flood Disaster Prevention Week**

#### **Rainy Season Disaster Prevention Week**

“An Ounce of Prevention is Worth a Pound of Cure”

Sunday	Mass commemorating victims of Hurricane Mitch
Monday	Theater and sharing experiences
Tuesday	Tree nursery talk and demonstration
Wednesday	Plant tree nursery
Thursday	Community and Family Emergency Plans
Friday	Video on disasters
Saturday	Simulation involving the entire community

#### **Community Preparedness Campaign**

Date: Mid–August (just before the heaviest rain of the rainy season)

Sunday	Ceremonies commemorating the experiences of Mitch, held in the different churches in the community
Monday	Dramatization of what happened to the community during Mitch
Tuesday	Environment Day. Raise consciousness regarding hurricanes, floods, etc.
Wednesday	Field exercise identifying evacuation routes and potential shelters for displaced persons
Thursday	Reforestation Campaign
Friday	Soccer Game and Dance

*Handout*  
*Page 2 of 2*

**Group 3: Maintaining Community Interest**

- Hold meetings three times a year; serve refreshments to encourage attendance.
- Perform a test of the Community Emergency Action Plan.
- Share ongoing information in the schools.
- Conduct simulations of different disasters.
- Find different ways to convene people; do not call the meetings “meetings.”
- Prepare radio messages and radio magazines.
- Create dramatizations with disaster themes in primary schools, high schools, and the community in general.
- Conduct monthly simulations.
- Integrate groups (people of different ages).
- Involve youth.

How to involve more people

- Undertake home visits.
- Work with the women’s groups.

How to transmit the information to people who do not read and write

- Theatrical presentations
- Drawings
- Simulations
- Videos
- Oral histories

**Group 4: Using the Annual Town Fair**

- Conduct a dramatization that deals with the Family Emergency Plan.
- March with banners in the parade.
- Use cars with sound system to spread the word.
- Broadcast prevention messages over local radio stations.

**Group 5: High School Work**

- Give classes about preparedness and prevention.
- Conduct simulations.
- Make posters.
- Help with reforestation efforts.
- Present first aid course.
- Assign students to develop Family Emergency Plans.
- Draw risk maps.
- Design an evacuation plan.

## Session 5:

# Resources

### Overview

Community resources are critical in providing the support and structure needed to conduct comprehensive DPM work. This session will help participants to better understand what community resources are available to them and will increase their ability to use these resources in various situations.

### Objectives

By the end of the session, the participants will have:

1. Shared resources that they have found useful in support of community preparedness work.
2. Identified new potential resources.

### Time

30 minutes

### Materials

Handout

- *List of Resources* (such as nongovernmental organizations (NGOs), government organizations (GOs), and the private sector)

### Preparation

Before the session, the trainer should have a good understanding of the types of support that are available within and to the communities in which the participants live. The trainer needs to create the list of resources (including how to contact them) that is used in this and future sessions.

### Delivery

#### Step 1. Introduction

Tell the participants that they will spend about 15 minutes reviewing the different resources in their communities, the type of assistance these resources have provided, and the type of assistance they may be able to provide in future DPM activities. Note that these resources include governmental and nongovernmental organizations, private enterprise, and some individuals.

#### Step 2. Discussion of Resources

Begin with a discussion about mayors by asking: In what ways have your mayors or community leaders supported the activities you have carried out between workshops? As participants respond, the trainer or co-facilitator writes them on the board. Encourage the participants to take notes.

**Sample Mayoral Activities**

Mayor/	Funds and food for meetings
Community leader/	Photocopies
Chief	Space to meet in the municipal building
	Transportation
	Convened meetings

Continue asking for examples from the government (*e.g., ministers, city planning boards, heads of utility offices*), then from NGOs (*e.g., social services organizations, women's groups*) and then from the private sector (*local or international businesses*). Try to get as complete a list as possible, drawing the participants out with questions such as: How did you access the resources? How did you contact the agency?

**Step 3. Summary**

Distribute the *List of Resources*. Ask participants to look it over and add other resources they might know of.



## Session 6:

# Community Emergency Action Plan

### Overview

This session helps participants to consider and develop ideas for the Emergency Action Plans needed in their communities.

### Objectives

By the end of the session, participants will be able to:

1. Identify the essential components of a Community Emergency Action Plan.
2. Identify the steps for each community to take to complete their Emergency Action Plan.

### Time

45 minutes

### Materials

Handout

- *List of Resources* (NGOs, GOs, private sector)

Blank flip chart and markers

### Preparation

This session draws on work done in Honduras. The trainer should tailor the session to fit the emergency plan framework for the country in which the training is being given. If no such framework exists, an activity should be developed for use during the initial workshop that presents a framework that will be used in later sessions. The BEFORE, DURING, and AFTER conceptualization of disasters should be used because this concept is universally applied in disaster-related development work. However, how Emergency Committees are formed and tasks are assigned varies from country to country.

### Delivery

#### Step 1. Introduction

- a. Ask the participants if they remember the Long Road simulation and remind them they talked about the activities that the different commissions of the Emergency Committee should carry out during an emergency. They discussed the most important part of the Disaster Cycle: the BEFORE phase. Ask them to identify the time period in which the current workshop is taking place (*BEFORE*). Note that this time is when the work of preparing for and preventing future disasters should occur.
- b. When the DURING phase comes, it is too late, because everyone is busy solving all the problems caused by the disaster. Continue by noting that the BEFORE phase plans

consist of many activities. Some are short–term activities and others are long–term. Then, ask participants to identify some short–term and long–term activities and write them on a flip chart (see example below).

***Examples of Short– and Long–Term Activities***

**Short–term activities**

- Meetings
- Talks in schools
- Simulations

**Long–term activities**

- Reforestation
- Soil conservation
- Improved housing
- Relocating families living in vulnerable areas

**Step 2. Individualized Community Emergency Action Plan**

- a. Note that you recognize that many of the participants have probably wondered what their Community Emergency Action Plan should actually consist of. Tell them that the plan needs to include at least the BEFORE, DURING and AFTER activities of each commission. It must clearly indicate how the community will respond during an emergency or disaster, the nature of the hazards and vulnerabilities being addressed, where the Emergency Operations Center is to be located, and the specific responsibilities of each commission member.
- b. Tell the group that those with completed plans should review them. Tell them that many plans in many communities remain incomplete and do not answer: who, when, how, where, and with what. Let the participants know they can help.
- c. Explain that sorting out the details of each community’s plan is the responsibility of the local emergency committee and community members. Use the following analogy to make the point about countries’ needs being different: José’s shoe would not fit everyone in the group. It would not, for example, fit María. Note that one could say that José’s shoe is the action plan for his community and Maria’s shoe is the action plan for her community. Maria’s feet are very different from José’s feet: they are smaller and narrower. If José tried to wear Maria’s shoes, and vice versa, it would be inconvenient at best, and could be painful. But, there are many similarities: shoes are shoes and shoes are useful for everyone to protect their feet.
- d. Note that it is the same with Community Emergency Action Plans. Point out that although all communities have different characteristics and needs, there are many similarities as well. Every community can benefit from having a plan that shows people how to protect themselves and outlines the actions that people should take when an emergency or disaster strikes, using the resources that the community has on hand. Tell

participants, however, that since no two communities are exactly the same, no two Community Emergency Action Plans will be exactly the same. Tell them that is why someone who does not live in their community cannot tell them exactly what should be included in their plans.

### Step 3. Sample Action Plan

Refer participants to pages 36 to 40 of their Workbooks, where they will find an example of an Action Plan. Ask them to take a few moments to read it. When they are done, note that what they saw were some general ideas that can apply to most communities. Tell them that their responsibility is to take these general ideas and add all the necessary activities and details so that the plan fits their community just like a properly fitted shoe.

### Step 4. Elements of Action Plans

- a. Take about 30 minutes to discuss the development of the Emergency Action Plan. Begin by asking who should be involved in developing it. (*All segments of the community should be involved, including all the members of the Emergency Committee.*) Tell them that their plans therefore cannot be finished here today. Note that those whose communities do not have plans should take some time to put together a draft plan.
- b. Remind them that each plan needs to indicate
  - The responsible party for the different activities.
  - The proposed means to carry out the activities.
  - Where and when things are going to happen.
  - What resources and capacities need to be used.
- c. Refer the participants to pages 41 to 50 of their Workbook for the categories. Tell them that before they begin work, the group will analyze some examples together. Write the following on the flip chart:

Education Commission BEFORE: Give watershed protection talks in schools.

Then ask: Is this complete? (*No*) What is missing? (*Who is going to give the talks, what grades will be involved, when will the talks be given, will there be any field work, what materials and supplies are necessary?*)

- d. Write on the flip chart:

Rescue and Evacuation Commission DURING: Evacuate people from vulnerable areas.

Ask: Is this complete? (*No*) What is missing? (*Which areas are vulnerable, who is in charge of evacuating each area or house, how is transportation going to be arranged, what equipment is available and where is it?*)

### Step 5. Development of or Revision of Action Plans

- a. Ask the community groups to work on their Emergency Action Plans. Ask them to
  - Note what needs to be included.



- Provide suggestions for their local Emergency Committees.
  - Provide the steps they want to take in their communities toward completing the plans.
- b. Any of the groups that have plans should analyze them, identify what is missing, and plan the steps they want to take in their communities toward completing the plans.

**Step 6. Sharing Elements of Plans**

- a. Ask if anyone wants to share some of the tasks or activities that they have included in their Community Emergency Action Plan.
- b. Ask representatives from each community to share what next step they plan to take with their plans back in their communities.
- c. Finally, ask the participants how they felt about the work they completed. Was it easy? Is it easy or difficult to identify tasks? Who should do them? Did they create a timetable? What did they learn by trying to develop the plan?
- d. Congratulate the group on the work done. Mention specifically some of the new things that the facilitators learned from the participants during this exercise. Encourage the group to continue to involve their communities in completing the plans.





## Session 7:

### Follow–Up Plan

#### Overview

This session helps participants to identify additional community–based activities that can support their DPM work and to draw up a calendar of these activities.

#### Objectives

By the end of the session, the participants will be able to:

1. Emphasize the importance of having a plan to guide them as they continue community–based DPM work.
2. Write a plan of activities that they can conduct in their communities throughout the coming year.

#### Time

1 hour, 15 minutes

#### Materials

Handouts

- *List of Resources* (NGOs, GOs, private sector) and contact information (given out previously and used as reference in this session)
- *Follow–up plan Calendar* and *Sample Follow–up Plan from Honduras*
- *Workshop Evaluation Form*
- *Post–Test*

Prepared flip chart

- Calendar Preparation Tasks

Blank flip chart and markers

#### Preparation

Trainers should familiarize themselves with the types of activities that have been conducted in the past as well as any issues affecting the cultural appropriateness of community–based activities.

Find out what type of follow–up and support the Peace Corps expects to provide. Adjust notes in Step 5.

#### Delivery

##### Step 1. Introduction

- a. Take a few minutes to introduce the session by asking, “Why are we here today? Why did we leave our homes and families to meet here again?” and listen to the responses. Note that in the first workshop, the group decided that the worst outcome of the

- workshop would be to go back to their communities and do nothing with the information they received.
- b. Note how important it will be to put their information to work. Hold a short discussion about how they feel about the work they have done so far. At the end of it, ask them if they are willing to keep on working. Ask what it means to them and what it would mean to their communities. Ask what they can do to keep on with the important work of community DPM.
  - c. After listening to their responses, note that in addition to their involvement in the development of the community Emergency Action Plan, it will be important to think of other activities that can be carried out in their communities to maintain motivation and interest. If not, a disaster may ensue from a hazard, although the information was there to cope with it.

### Step 2. Annual Preparedness Calendars

- a. Tell the participants that for about 30 minutes, they will be asked to think more about community work. Tell them that they will develop an annual preparedness calendar in which they can start listing their ideas.
- b. Ask for a volunteer to help with a short activity. Write the months of the year on a flip chart, starting with the current month. Then ask
  - When is the annual fair in (point to one person) your town?
  - When is the planting season?
  - When does it rain?
  - When is the harvest?
  - When does school start?

Write all these events on the calendar, noting those times of the year when people are especially busy and the best times to work on community DPM activities (i.e., the best times of the year to work on nurseries, transplant trees, give talks at the schools, carry out simulations).

### Step 3. Community Preparedness Calendars

- a. Tell participants that they will complete the work outlined on the flip chart in their community groups. Refer to the box below for the Calendar Preparation Task flip chart. Distribute out the *Follow-Up Plan Calendar* sheets to each person.

#### **Calendar Preparation Tasks**

Fill out the annual planning sheet with the normal activities that happen each year.

Briefly list hazards and vulnerabilities for the respective communities.

Then, think of all the different DPM activities you can carry out with the different segments of their communities, including items from their Emergency Action Plans.

Fill out the sheets (with one copy for Peace Corps) with the activities and who is responsible for each one.

- b. Explain that they will share and discuss their work during the next session.
- c. Have them divide into groups and develop their calendar.

#### **Step 4. Discussion of Calendar**

The facilitator should ask who has their birthday in January. Then, ask each person with a January birthday to share one idea from their calendar for the month of January. Continue month by month, until each participant has contributed. Then, ask if anyone has any other items they would like to add.

#### **Step 5. Follow up and Workshop Evaluation and Post–Test**

- a. Give the participants any information about follow–up by the Peace Corps and remind them that the agency will always maintain contact with and provide support to their Volunteers, thus also providing support to those with whom they work and the projects on which they work. Tell them that community–based DPM is a Peace Corps priority and that the agency hopes to continue to support it through the Volunteers, and hopes that the Counterparts and Volunteers will work with the community and appropriate authorities and also keep PC informed of their ongoing work.
- b. Choose (or ask for) four people, two Volunteers and two Counterparts, to form a committee to plan the closing ceremony. Tell the group members to speak to the committee members if they have an idea for the ceremony. Announce the time for the closing ceremony.
- c. Distribute copies of the *Workshop Evaluation* and the *Post–Test*. Ask the participants to complete the *Evaluations* and *Post–Tests* and to return them to you. Remind them that they do not have to write their names on the evaluation forms. Tell the participants to mark a “V” for Volunteer or “C” for Counterpart next to the number on the page and remember their numbers. Let them know that their *Pos–Test* results will be available to them, and when.
- d. Congratulate everyone on their work.

Follow-Up Plan Calendar

Community: \_\_\_\_\_

Representatives: \_\_\_\_\_

Year: \_\_\_\_\_

January	February	March	April	May	June
Normal Activities	Normal Activities	Normal Activities	Normal Activities	Normal Activities	Normal Activities
Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)
Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities	Prevention and Mitigation Activities
Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)	Responsible Person(s)



Community: \_\_\_\_\_

Representatives: \_\_\_\_\_

Year: \_\_\_\_\_

<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>
<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>
<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>
<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>
<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>



## Handout

## Sample Follow-Up Plan from Honduras

**Community:** Monjarás, Marcovia, Choluteca

**Representatives:** Virginia and Marc

January	February	March	April	May	June
<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>	<b>Normal Activities</b>
<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>
<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b>	<b>Prevention and Mitigation Activities</b> Implement training workshop for 15 members of the Emergency Committee	<b>Prevention and Mitigation Activities</b> 1. Talks at Julia Zalaya Institutes  2. Meet with different Commissions	<b>Prevention and Mitigation Activities</b> Carry out First Annual Hurricane and Flood Awareness Week	<b>Prevention and Mitigation Activities</b> 1. Convene Emergency Committee  2. Plan and Implement Disaster Simulation
<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b>	<b>Responsible Person(s)</b> Virginia and Marc	<b>Responsible Person(s)</b> Virginia and Marc	<b>Responsible Person(s)</b> Emergency Committee	<b>Responsible Person(s)</b> 1. Marc 2. Virginia



*Handout*  
*Page 1 of 3*

## *In–Service Training DPM Workshop Evaluation*

The purpose of the evaluation is to help us improve the disaster management training program. Your answers are confidential, so please answer the questions with candor. Use the back of this questionnaire if additional space is needed to write responses. Thank you for your help.

### **Training Content**

1. Do you think that you have a better understanding of the importance of disaster preparation and mitigation? \_\_\_ Yes \_\_\_ No
2. Do you have a better appreciation for the role that Volunteers can play in helping a community to prepare for and mitigate natural disasters? \_\_\_ Yes \_\_\_ No
3. Please rate the quality of the information of the following sessions:

Part One, Session 1: **Introduction to Disaster Management**

Excellent      Good      Average      Below Average      Poor

Part One, Session 2: **Overview of Disaster Preparation and Mitigation**

Excellent      Good      Average      Below Average      Poor

Part One, Session 3: **Volunteer Safety and Security**

Excellent      Good      Average      Below Average      Poor

Part Two, Session 1: **Review of Basic Disaster Terminology And Historical Events**

Excellent      Good      Average      Below Average      Poor

Part Two, Session 2: **Preparation for Community and Mapping Natural Disaster Vulnerability Analysis**

Excellent      Good      Average      Below Average      Poor

Part Two, Session 3: **Preparation for Community Field Research**

Excellent      Good      Average      Below Average      Poor

4. The primary objectives of the full IST were to:
  - a. Help Volunteers review issues and information presented during the PST disaster management training module or incorporate new background information on disaster management if they did not participate in a disaster management PST

*Handout*  
*Page 2 of 3*

- b. Increase participants' knowledge about working with and through community involvement
- c. Provide participants with a more in-depth understanding of community disaster-related activities
- d. Give participants the skills they need to assist in disaster management planning within their communities.

Were the main objectives of the training met? \_\_\_\_ Yes \_\_\_\_ No

If you believe that one or more of the objectives were NOT met, please identify which one(s) and explain why.

- a. \_\_\_\_\_  
\_\_\_\_\_
- b. \_\_\_\_\_  
\_\_\_\_\_
- c. \_\_\_\_\_  
\_\_\_\_\_
- d. \_\_\_\_\_  
\_\_\_\_\_

## Organization of the Training

How would you rate:

- 1. The overall length of the training?  
Just right      Too long      Too short
- 2. The overall training format?  
Just enough variety      Not varied enough      Disjointed
- 3. The overall quality of handouts and materials?  
Excellent      Good      Average      Below Average      Poor
- 4. The training site?  
Very comfortable      Somewhat comfortable      Uncomfortable

Please comment: temperature, amenities, size, location, etc.



*Handout*  
*Page 3 of 3*

## Training Delivery

How would you rate the trainer's:

Knowledge of the subject matter?

Part One:	Excellent	Good	Average	Below Average	Poor
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Part Two:	Excellent	Good	Average	Below Average	Poor
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Manner of delivery?

Part One:	Excellent	Good	Average	Below Average	Poor
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Part Two:	Excellent	Good	Average	Below Average	Poor
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## General Comments

1. Please comment on how you expect to use the information and techniques that you have gained during this training.
2. Please provide any additional information that you believe would improve the training.
3. Please identify any topics on which you would like additional information. Refer to the objectives and the session titles above as guides.



*Handout*  
*Post-Test*

**Participant # \_\_\_\_\_**

1. How do you think Peace Corps Volunteers can help communities better prepare for and minimize the impact of (a hurricane, earthquake, drought, etc. Choice/s should be country-dependent)?
  
2. Define the following terms:
  - a. Hazard –
  - b. Disaster –
  - c. Emergency –
  - d. Vulnerability –
  
3. Typically, there are actions that one can take BEFORE, DURING, and AFTER a natural disaster. Please identify some activities in each category:  
  
Before:     a)  
              b)  
  
During:     a)  
              b)  
  
After:       a)  
              b)
  
4. What is a community risk analysis?
  
  
5. Identify some activities that might be included in a community risk analysis in \_\_\_\_\_ (name of country).Handout

## Session 8:

# Closing Ceremony

### Overview

The closing ceremony allows the participants to put closure on the training and congratulate themselves for a job well done.

### Objectives

By the end of the session, participants will have:

1. A heightened sense of their achievement and purpose
2. A sense of team identity

### Time

30 minutes

### Materials

Diplomas

Letters of Attendance

### Preparation

While the closing ceremony committee is in charge of planning this final event, it is important to remember to include the Diplomas and Letters of Attendance as a part of the event.

### Delivery

#### Step 1.

Have the closing ceremony committee introduce their closing plan.

#### Step 2.

Conduct any special activity the committee has prepared.

#### Step 3.

Introduce the person providing the final remarks (this may be the facilitator). *(This is the last opportunity for facilitators to motivate the group, and some carefully chosen words can make a lasting impression and reinforce many important concepts. An example is provided below).*

“I would like to take just a few moments to share some of my thoughts with you. First of all, it has been a great honor for me to have the opportunity to meet and get to know each one of you, to work with you, and to learn from you. I feel that I have new friends and colleagues, and I feel very fortunate for that.

“You are community leaders, and have a great responsibility. All of our lives changed as soon as we became survivors of the terrible tragedy of Hurricane Mitch. I

know that each of you, as well as myself, feel a great responsibility to do everything we possibly can so that our communities never have to suffer again the way they suffered from the devastating effects of Hurricane Mitch.

“In the short term, we need to motivate our Mayors and other leaders, to teach, to raise consciousness, and try as hard as we can to reach all the people in our communities, because the prevention of future disasters is a job for everyone. Chances are that another event of the magnitude of Mitch will not happen again during our lifetimes. But our responsibility is to do all we can so that our grandchildren, and the grandchildren of our grandchildren never have to experience any similar misfortune. We must work today so that future generations will live in a country full of tree-covered mountains, and so that in the future the rain will not be the source of death and destruction, but rather of sufficient and abundant water for all. I know that we can do it. Let us get to work, and once again, thank you for your commitment and good will.”



## *Appendix 1:*

### *Common Psychosocial Responses to Disasters*

Many issues come to the surface during an emergency. They are both physical and psychosocial. Below are some key psychological and health issues of which Peace Corps Volunteers should be aware in the event of a disaster. Knowing and understanding possible reactions will help Volunteers deal with these issues and keep them safe.

### *Generalized Psychosocial Response in Disasters*

Predicting how people will respond in a disaster is difficult. Again, however, certain generalizations appear to be true:

- Individuals who were unstable before the disaster will probably suffer more as it proceeds.
- People whose families are separated typically recuperate more slowly.
- Professionals who lose status and the ability to practice their trade or skill as a result of becoming refugees may suffer a lack of self-confidence that may never be regained.
- Children probably suffer most initially in almost every way, but are frequently more resilient and adapt more quickly than older persons.
- Often, those who appear to cope most easily in the short term suffer reactions later that may be quite severe.
- Marginalized individuals (the poor, female-headed households, the disabled) are likely to suffer more than those with stronger social ties.

A host of physiological, cognitive, psychological and emotional, and behavioral reactions are possible. They are often linked with the phases of an emergency. During the alarm and mobilization phases, the person might react to the alarm in several ways: shock, anxiety, disorientation, or difficulty communicating. There is an attempt to adjust to the information about the event. During the action phase, there may be various reactive symptoms. These might include a variety of physiological, cognitive, and psychological symptoms. Some typical "coping mechanisms" are listed and briefly discussed below:

- Depression is the most general reaction noted after almost all disasters. The extent of depression will depend upon some of the issues noted above, and also the extent of the disaster itself.
- Anxiety is common during initial, as well as creeping, disasters and following almost every catastrophe. During slow-onset disasters, people quite naturally worry and become anxious about what will happen. After the disaster strikes, there are difficult and important decisions to make about how to return their lives to normal, which also may cause anxiety. Anxiety and depression can be accompanied by sleep disorders and are often linked. Anxiety can also be accompanied by other physiological changes, including increased heartbeat, respiration, and blood pressure; nausea and diarrhea; headaches; dizziness; and other symptoms.

- A short-term feeling of disorientation accompanied by an initial inability to act followed by overactivity is common after sudden-onset disasters. The follow-on activity can manifest itself as heroic volunteerism or chaos, depending upon how well activities are led and organized.
- A change in psychological and social patterns has been particularly noted in traditional cultures' responses to slow-onset disasters. There is sometimes an attempt to modify local beliefs to explain a disaster or to move to other locations to avoid one.
- A reduction of individuals' "circles of concern" has been noted with slow-onset disasters. The concern formerly extended to the community or extended family may decrease and come to include only the nuclear family.
- Where large numbers of refugees or internally displaced persons are the result of a disaster, survivors often suffer guilt for having survived while loved ones have died, for having left too soon or too late, or for any other decisions that possibly could have affected the outcome of others. A related, following reaction may be a sense of invulnerability that, coupled with guilt, may cause survivors to take undue risks, and/or increase aggressiveness toward others.
- Panic and hysteria can arise during mass accidents but seem less common after natural disasters.
- Alcoholism, drug abuse, and increased violence are sometimes problems.

## *The Response of Peace Corps Volunteers*

In the event of a disaster, Volunteers may be withdrawn from their communities for safety reasons immediately before or after an event. This can raise important issues for the Volunteers and their communities. The duties and responses of Peace Corps staff and Volunteers in any given emergency are identified in the Evacuation Support Guide and each post's EAP.

If they experience the disaster simultaneously, Volunteers may suffer the same reactions to it as the local people. They may be stunned and feel guilty for having survived because of their higher economic status or better housing, for example. This may lead them to overreact during relief efforts by working themselves to exhaustion or engaging in counterproductive activity for the sake of keeping themselves occupied. They may also attempt to secure control of the situation from local authorities in the belief that they can organize relief work better or conduct themselves more impartially. On the other hand, Volunteers may be terrified if the local community looks to them for leadership in a situation where they lack the skills, experience, or authority to help in a meaningful way, and the Volunteers' ability to cope with these new demands may be impaired.

Volunteers who are not aware of the possibility of increased aggressiveness on the part of beneficiaries following disasters may also respond to this behavior inappropriately by matching that aggression or by imposing unnecessarily restrictive rules or punitive measures on Counterparts or subordinates.

Volunteers may feel alienated if the local community tries to take advantage of them, since neighbors and colleagues may appear unusually friendly but actually harbor underlying motives of desire for material assistance, transport, employment, and so on. The distribution of limited goods and services in developing nations is often based on family and friendship ties rather than

on a more objective assessment of need, and Volunteers may have difficulty understanding this and explaining Western standards of equity to associates and neighbors.

It is important for Volunteers to recognize the possible ways in which they might react to a disaster. This will help them and the Peace Corps plan for and address needs if the situation demands.

## **Resources**



National Institutes of Health. "Disaster Work and Mental Health: Prevention and Control of Stress Among Workers." Bethesda, MD: NIH, 1983.

Peace Corps. "Psychosocial Issues in Disasters." Washington, DC: Peace Corps, 1983.

## *Appendix 2:*

# *Types of Hazards/Disasters: Effects, Lessons Learned, and Appropriate Actions*

## *Earthquakes*

Earthquakes are one of the most dangerous and destructive forms of natural hazards. They strike with sudden impact and little warning. They may occur at any time of day or on any day of the year. Earthquakes can devastate an entire city or a region of hundreds of square kilometers. They can reduce buildings to piles of rubble in seconds, killing and injuring their inhabitants. This information sheet provides some basic information on the primary and secondary effects of earthquakes as well as an overview of preparedness and mitigation actions.

### **Primary Effects of Earthquakes**

The onset of a large earthquake is initially signaled by a deep rumbling, followed shortly by a series of violent motions in the ground. Often the ground fissures, or cracks, and there can be large permanent displacements horizontally—sometimes as much as six to nine miles (10 to 15 kilometers). As the vibrations and waves continue to move through the earth, structures on the earth's surface are set in motion. Each type of structure responds differently, depending on the type of materials of which it is made. When the seismic waves strike, the earth begins to move backward and forward along the line of contact (shear line). The lower part of the building on the earth's surface moves immediately with the earth. The upper portion, however, initially remains at rest; thus the building is stretched out of shape. Gradually, the upper portion tries to catch up with the bottom. As it does, the earth moves in the other direction causing a “whiplash” effect, speeding up the top of the building, and creating a vibration known as resonance. The resonance can cause structural failure in itself; adjacent buildings having different response characteristics (caused by different building materials) can vibrate out of phase and pound each other. The walls of buildings without adequate lateral bracing frequently fall outward, allowing the upper floors or roof to collapse into the inside of the structure. Another primary effect, known as liquefaction, can occur when loose sandy soils with a high moisture content separate when shaken by an earthquake. The water then moves upward, resulting in a surface with a quicksand-like consistency. Heavy structures resting on these soils will slowly sink into the ground.

### **Secondary Effects of Earthquakes**

Often as destructive as the earthquake itself are the secondary effects such as landslides, fires, tsunamis, and floods. Landslides are especially damaging and often account for the majority of lives lost. Tsunamis are generally of less concern, except in the Pacific Basin. A tsunami is a large sea wave caused by an earthquake abruptly lifting the ocean floor. The waves move outward at high velocity and can cross thousands of miles before they run up on shore. At sea, their low wave height gives little evidence of their existence. As they approach land, however, their velocity decreases and their height increases. In this way, a five-foot crest moving at 370 miles per hour (mph) (600 kilometers per hour [kph]) in the open ocean becomes a devastating 3,200-foot (50-kilometer) wave moving at 31 mph (50 kph) when it reaches shore. Fire is another



concern immediately following an earthquake because of severed electrical lines and broken gas mains. In recent years, devices have been installed in most of the world's major cities that shut down gas and electric supply lines automatically if an earthquake strikes. Yet the threat still exists in many smaller cities and the squatter settlements of larger cities where open fires are used for cooking, heating and lighting.

## **Lessons Learned**

It is important to recognize that different cultures explain the existence and appearance of earthquakes in various ways, including the wrath of a god, weather patterns, and modern interference with nature. These cultural elements should be taken into account when providing preparedness or mitigation assistance; however, certain lessons have been learned and should be applied:

- When survivors assume that nothing can be done to avoid the impact of an earthquake, they often want to build structures in the same manner as before.
- Because rebuilding usually takes place in the first months following an earthquake, technical assistance and improvements need to take place soon after the earthquake.
- Many survivors use building materials from their old home because they see these houses as providing greater shelter than tents and allowing them to keep something they had before the earthquake.
- Earthquakes and the threat of continuing tremors rarely are sufficient reason to evacuate an affected area.
- Health threats in the aftermath are exaggerated. Relocation into camps poses a much greater threat in the outbreak and spread of communicable diseases.
- Reconstruction often takes longer than estimated, and a full recovery may take years.
- Outbreaks of cholera do not follow earthquakes. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of earthquakes.
- Extensive food aid is rarely required after an earthquake.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Earthquakes do not incite panic, hysteria, or rioting.

## **Pre-Disaster Activities**

A great deal can be done to prevent earthquakes from becoming disasters. First, it is important that various members of the public come to understand earthquakes. Three levels of commitment are needed:



1. Policymakers need to create strategic development and investment programs;
2. Communication programs need to reach the general public to inform and educate; and
3. Technical assistance must be available for responding to before–and–after needs.

Attention to disaster assistance has become a priority of many government policy and development officials today. One activity that is necessary in advance of any disaster and which is addressed in this training, is mapping the possible risks and response of the community. Mapping should consider the conditions that could contribute to a particularly risky environment in the face of a disaster, such as structures and power lines. Specific actions necessary to reduce earthquake damage include:

- Developing low–cost construction techniques that are seismic–resistant.
- Introducing improved construction techniques to the building industry and to the public.
- Determining which sites are safe for construction through analysis of the location (e.g., not downstream from dams and snowpacks), soil type, and geologic structure.
- Instituting incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety.
- Instituting incentives to encourage future development on safer sites and safer methods of construction through land use controls (zoning); building codes and standards and means of enforcing them; favorable taxation, loans, or subsidies to qualifying building methods and sites; and land development incentives.
- Reducing possible damage from secondary effects by identifying and restricting construction on potential landslide sites; installing devices that will keep breaks in electrical lines and gas mains from producing fires; and verifying the capability of dams to resist earthquake forces and upgrading them as necessary.

## **Preparedness Activities**

Earthquake preparedness activities include those that focus on education and planning:

- Training teams for search and rescue operations
- Training teams for disaster assessment
- Identifying safe sites where people living in areas threatened by landslides in secondary tremors could be relocated
- Training adequate personnel in trauma care
- Maintaining stocks of trauma–related medical supplies
- Reviewing and upgrading the structural soundness of facilities that are essential for the operation of disaster response, such as hospitals, fire stations, government buildings, communications installations
- Preparing plans and equipment for alternative water supply as necessary
- Preparing plans for clearing streets on a priority basis to provide emergency access
- Preparing emergency communication systems as well as messages to the public regarding matters of health, safety, and security
- Training teams to determine if buildings are safe for reoccupancy

## Post-Disaster Activities

A number of lessons for post-disaster activities have been learned from experience. The response should include activities outlined in the preparedness stage, but the initial emphasis during the post-disaster time period should be on search and rescue of victims. There should be an attempt to account for all members of the affected population and to provide emergency medical assistance. Additionally, it will be important to conduct a damage and needs assessment and to provide relief to survivors. Responses in this last area can involve:

- Financial assistance
- Reopening roads
- Reestablishing communications to quickly get information to the public about what they should do and where they can go for services
- Making contact with remote areas
- Conducting disaster assessment
- Providing building materials for reconstruction

Most long-term recovery activities involve local and national authorities. National authorities will also determine the need for international assistance. These activities include:

- Repair and reconstruction of “lifelines”—water, sewer, and electrical services and roads
- Technical, material, and financial assistance for the repair and reconstruction of residential and public buildings
- Economic programs that create jobs to help rejuvenate the economy
- Financial assistance to survivors, including lines of credit and assistance to businesses to enable them to participate in recovery efforts

## References for Earthquakes

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

United Nations Disaster Relief Office. *Shelter After Disaster*. New York: UN, 1982.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## Cyclones

Cyclones are among the most awesome events that nature can produce and pose a major threat to lives and property in many parts of the world. Every year, these sudden, unpredictable, violent storms with high winds cause widespread devastation to coastlines and islands in their erratic paths. A cyclone's destructive work is done by the high wind, flood-producing rains, and associated storm surges. A cyclone is a tropical storm in which the winds reach speeds of more than 74 mph (120 kph) and blow in a large spiral around a relatively calm center or "eye." Simply stated, cyclones are giant whirlwinds in which the air moves in a large, tightening spiral around a center of extreme low pressure, reaching maximum velocity in a circular band extending outward 20 to 30 miles (30 to 50 kilometers) from the edge of the eye of the cyclone.

Near the center, winds may gust to more than 200 mph (320 kph), and the entire storm dominates the ocean surface and lower atmosphere over tens of thousands of square miles. Devastating floods from extremely heavy rainfall often accompany tropical cyclones. Flash floods of great volume and short duration may result from the cyclone's rain, especially in hilly or mountainous terrain. Runoff from the intense rainfall accumulates quickly in restricted valleys and flows rapidly downstream, often as a large wave. Flood flows frequently contain large concentrations of sediment and debris. Storm surges, rapid rises of the ocean level as the cyclone approaches which can bring a wall of water as high as 65 feet (20 meters), cause the most devastating type of cyclone-related flooding. Tidal floods can also be caused by the combination of waves generated by cyclone winds and flood runoff resulting from the heavy rains that accompany cyclones. These floods may extend over large distances along a coastline, but their duration is usually short because of tide fluctuations.

## Primary Effects of Cyclones

Disasters from cyclones occur when the human settlements are vulnerable. Vulnerability is determined by the exposure to the storms, the degree to which the houses and other structures can be damaged, and the likelihood that secondary effects could occur. Urban and rural communities in unprotected, low-lying coastal areas or on river floodplains exposed to cyclones are considered vulnerable. Poverty and underdevelopment are key source factors in determining vulnerability, given the structural weakness of the homes and the higher probability of homes in exposed locations.

Most loss of life from cyclones is due to drowning, either from the rise in sea water inundating the land or from floods resulting from the excessive rainfall. The number of deaths is significantly higher in developing countries where communications are poor, warning systems and evacuation plans are inadequate, and crowding is commonplace. Deaths and injuries also occur from structural collapse or flying objects, with devastating effects on homes and buildings, agriculture, critical facilities, and lifelines. The most dramatic impact of cyclones is the damage they cause to buildings, which are pulled apart by winds moving swiftly around and over them, lowering the pressure on the outside and creating suction on the walls and roof. Safety also is compromised by the damage to or destruction of public installations and facilities, such as water and electrical plants, hospitals, and police stations. There also may be damage to agricultural land, crops, and foodstuffs.

## Secondary Effects of Cyclones

A secondary effect of flooding due to cyclones is mudslides, which are caused by supersaturation of deforested or stripped hillsides. Significant loss of life may occur in massive mudslides resulting from the torrential rains, especially in squatter settlements located in floodplains.

## Lessons Learned

The following are lessons learned.

- Outbreaks of cholera do not follow cyclones. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of cyclones.
- Extensive food aid is rarely required after a cyclone.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Cyclones do not incite panic, hysteria, or rioting.
- Cyclone relief and reconstruction programs should be integrated with long-term development programs.
- When properly executed, reconstruction assistance can provide a strong stimulus to recovery and a base for future development work.
- Reconstruction programs should seek to reduce social and physical vulnerability to future disasters.
- Reestablishment of the local economy, income security, and agriculture are usually more important to cyclone victims than materials assistance.
- Churches, schools, and other large buildings that are often designated as cyclone shelters are usually not safe. The number of deaths attributed to destroyed or flooded shelters is alarming. Most experts agree that the best alternative is adequate warning and evacuation of threatened areas.

## Pre-Disaster Activities

Reducing the harmful effects of a cyclone requires actions on three fronts:

1. Reducing the vulnerability of physical settlements and residential structures;
2. Reducing the vulnerability of the economy; and
3. Strengthening the social structure of a community so that coping mechanisms can help absorb the impact of the disaster and promote rapid recovery.

The first step in reducing vulnerability for human settlements is to identify the high-risk areas. This is done by relating the effects of the cyclone to the terrain and to the probability that a

cyclone will occur. This activity is addressed through mapping the community. The second step is to identify those communities that are particularly susceptible to damage or destruction, particularly those of the poor. Reduction of vulnerability may also involve:

- Development of extensive public awareness programs to inform the public about the hazards and illustrate what can be done to prevent a disaster
- Land–use zoning to control development
- Construction of protective works, such as embankments, to protect from flooding
- Restrictive development regulations to ensure that any development meets certain standards that take into consideration the threat to the site
- Land swaps, which would provide alternatives to development of the site
- Imposition of design criteria or building standards to govern construction
- Development of wind–resistant construction techniques
- Introducing improved construction techniques to the building industry and general public
- Modifying and strengthening existing structures
- Development of incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety
- Development of incentives to encourage future development on safer sites and safer methods of construction, such as favorable taxation, loans, or subsidies to qualifying building methods or sites
- Diversification of agricultural production—identification and planting of flood–resistant crops or adjustment of planting season, if possible, to avoid coinciding with cyclone and flood season
- Development of family savings programs to establish cash reserves
- Identification and strengthening of local organizations that serve as coping mechanisms
- Reforestation and range management to increase absorption of rainfall and reduce rapid runoff in mountainous areas

## **Preparedness Activities**

Preparedness activities include:

- Developing a disaster preparedness plan to sequence the activities and responsibilities of each participant;
- Developing warning and evacuation procedures for people threatened by floods;
- Training in first aid and trauma care and maintaining stocks of necessary medical supplies; and
- Establishing an emergency communication system regarding evacuation, health, safety, and security.

## Post–Disaster and Emergency Activities

Initial response by local authorities after a cyclone includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short–term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging.

Initial response by foreign aid organizations includes:

- Financial assistance
- Assistance in reopening roads
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification.

Secondary response by local authorities after a cyclone includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Repair and/or reconstruction of housing
- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business, and institutions.

## References for Cyclones

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## *Volcanoes*

A volcano is a mountain that opens downward to a reservoir of molten rock below the surface of the earth. Unlike most mountains, which are pushed up from below, volcanoes are built up by an accumulation of their own eruptive products: lava, ashflows, and airborne ash and dust. When pressure from gases and the molten rock becomes strong enough to cause an explosion, eruptions occur. Gases and rock shoot up through the opening and spill over the top or fill the air with ash and lava fragments. The danger area around a volcano typically covers a 20-mile radius, but some danger may exist 100 miles or more from a volcano. Volcanic products are used as building or road-building materials, as abrasive and cleaning agents, and as raw materials for many chemical and industrial uses. Lava ash makes soil rich in mineral nutrients.

### **Primary Effects of Volcanoes**

Three primary effects from volcanoes have been noted.

1. Volcanic ash can affect people hundreds of miles away from the cone of a volcano, making it difficult or impossible to breathe, contaminating water supplies, causing electrical storms, and collapsing roofs. Several of the deaths from the 1980 Mount St. Helens volcano located in the Cascade Range of southwestern Washington state in the United States were attributed to inhalation of ash. The 1992 Mount Pinatubo eruption in the Philippines caused 342 deaths and an evacuation of more than a quarter of a million people.
2. An erupting volcano can trigger tsunamis, flash floods, earthquakes, rockfalls, and mudflows.
3. Sideways-directed volcanic explosions, known as lateral blasts, can shoot large pieces of rock at very high speeds for several miles. These explosions can kill by impact, burial, or heat. They have been known to knock down entire forests. The majority of deaths attributed to the Mount St. Helens volcano resulted from lateral blasts and tree blow-down.

### **Pre–Disaster Activities**

It is important to provide information to the community about volcanoes. Here are some suggestions for ways to accomplish this:

- In a volcano-prone area, provide local emergency information about what to do and where to go in the event of a volcano.
- Bring in an expert to talk with community members about determining the likelihood of a volcanic eruption.
- Conduct a program and train others on how to recognize the warning signals of a possible volcanic eruption.
- Work with local emergency services and officials to prepare special information for people with mobility impairments (disabilities, children) on what to do if an evacuation is ordered.



## Preparedness Activities

Preparedness activities include:

- Develop and inform the public about community warning systems.
- Be prepared for the disasters that can be spawned by volcanoes:
  - Earthquakes
  - Flash floods
  - Landslides and mudflows
  - Thunderstorms
  - Tsunamis
- Develop evacuation plans. It is important to get to high ground away from the eruption. A primary route and a backup route should be planned.
- Develop an emergency communication plan. In case family members are separated from one another during a volcanic eruption, a plan should be made for getting back together.
- Ask an out-of-area relative or friend to serve as the “family contact,” and ensure that everyone knows the contact information of the person.
- Have disaster supplies on hand. These might include:
  - Flashlight and extra batteries
  - Portable, battery-operated radio and extra batteries
  - First aid kit and manual
  - Emergency food and water
  - Non-electric can opener
  - Essential medicines
  - Money
  - Sturdy shoes
  - Goggles and a throw-away breathing mask for each member of the household

## During and Post-Disaster Emergency Activities

Although it may seem safe to stay at home and wait out an eruption, this may be very dangerous. The rock debris from a volcano can break windows and set buildings on fire. Additionally, mudflows are a possible risk during a volcano. Mudflows are powerful rivers of mud that can move faster than people can walk or run. They occur when rain falls through ash-carrying clouds or when rivers are dammed during an eruption. Mudflows are most dangerous close to stream channels. When you approach a bridge, first look upstream. If a mudflow is approaching or moving beneath the bridge, do not cross it. The power of the mudflow can destroy a bridge very quickly. People should follow authorities’ instructions and leave the area before any part of the disaster begins. During the eruption, people should:

- Follow the evacuation orders issued by authorities.
- Avoid areas downwind of the volcano.
- If caught indoors:
  - Close all windows, doors, and dampers.



- Put all machinery inside a garage or barn.
- Bring animals and livestock into closed shelters.
- If trapped outdoors:
  - Seek shelter indoors.
  - If caught in a rockfall, roll into a ball to protect the head.
  - Avoid low-lying area where poisonous gases can collect and flash floods can occur.
  - If caught near a stream, beware of mudflows.
- Protect themselves
  - Wear long-sleeved shirts and pants to avoid irritation or burns.
  - Use goggles to protect eyes.
  - Avoid contact with ash, and, to the extent possible, stay indoors until local health officials advise that it is safe to go outside. Use a dust-mask or hold a damp cloth over the face to help breathing.
  - Turn car or truck engines off and avoid driving in heavy ashfall. Driving stirs up more ash that can clog engines and stall vehicles.
  - Clear roofs of ashfall when the eruption is over. Ashfall is very heavy and can cause buildings to collapse.
- Stay out of the area. A lateral blast of a volcano can travel many miles from the mountain. Trying to watch an erupting volcano is a deadly idea.
- Help neighbors who may require special assistance—those with infants or small children, elderly people, and people with disabilities.

## **Response of Authorities**

Initial response by local authorities after a volcano includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short-term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging

Initial response by foreign aid organizations includes:

- Financial assistance
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification

Secondary response by local authorities after a volcano includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings, and/or relocation
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Construction of housing
- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business, and institutions

## **Lessons Learned**

The following are lessons learned.

- Outbreaks of cholera do not follow volcanoes. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of volcanoes.
- Extensive food aid is rarely required after a volcano.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Volcanoes do not incite panic, hysteria, or rioting.
- Volcano relief and reconstruction programs should be integrated with long-term development programs.

## **References for Volcanoes**

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

## *Floods*

Floods caused by overflowing rivers result from precipitation over large areas or from the melting of the winter's accumulation of snow, or from both. These riverine floods differ from flash floods in their extent and duration. Flash floods are of short duration in small streams, while riverine floods take place in river systems whose tributaries may drain large geographic areas and encompass many independent river basins. Floods on large river systems may continue for periods ranging from a few hours to many days. Flood flows in large river systems are influenced primarily by variations in the intensity, amount, and distribution of precipitation. The condition of the ground—amount of soil moisture, seasonal variations in vegetation, depth of snow cover, and imperviousness due to urbanization—directly affects runoff.

### **Primary Effects of Floods**

Floods are natural hazards that are not, in and of themselves, disasters, but they can transform a vulnerable situation into a disaster. The vulnerability of a human settlement is determined by its exposure to flooding. Siting, soil conditions, absorptive capacity of the watershed, and the capacity of streams to carry runoff all have an effect on the extent of the flooding. Urban and rural communities sited on floodplains of rivers or streams are most at risk. Deaths usually exceed injuries, with surgical needs tending to be low and occurring during the first 72 hours in most cases. However, floods can bring an immediate threat of waterborne diseases and create conditions that promote secondary threats of water- and vector-borne diseases.

The most important determinant of vulnerability is the level of poverty and underdevelopment of a particular group. Poor people usually suffer most in disasters because they often live in weaker houses located in the most undesirable and most vulnerable areas. Furthermore, dramatic increases in population size, distribution, and density increase disaster risk. Urban slums and squatter settlements grow at about twice the average urban rate. Land tenure is also a determinant of vulnerability, especially where there is a scarcity of arable or developed land and poor farmers must engage in agriculture on hazardous land.

Floods can kill people. The number of deaths is significantly higher in developing countries where communications are poor and warning systems and evacuation plans are inadequate. Furthermore, it is expected that the number of deaths will increase as population pressures force people into more vulnerable areas such as low-lying agricultural areas or overcrowded urban slums on floodplains.

Floods can also damage human settlements, force evacuations, damage crops (especially tubers), damage food stocks, strip farmland, wash away irrigation systems, erode or render unusable large areas of land, and change the course of streams and rivers. Floods can also have a beneficial effect by depositing silt in some downstream areas.

### **Secondary Effects of Floods**

A secondary effect of heavy rain and flooding is mudslides, which are caused by supersaturating deforested or stripped hillsides. Significant loss of life can occur in massive mudslides resulting from the torrential rains, especially in squatter settlements located in floodplains.

## Lessons Learned

The following are lessons learned.

- Outbreaks of cholera do not follow floods. Cholera must be endemic to a community beforehand.
- Massive food aid is rarely required after a flood, although food distribution systems may need to be set up immediately after a flood in the affected area.
- Used clothing is almost never needed, is usually culturally inappropriate and, though accepted by disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Flood mitigation and reconstruction programs must be integrated with long-term development programs.
- Reconstruction assistance in agriculture can provide a strong stimulus to recovery and a base for positive changes.
- Reconstruction programs should seek to reduce the vulnerability of communities.
- Reestablishment of the local agriculture, economy, and job security is more important to flood victims than material assistance.
- Waterborne diseases do not increase as a result of floods.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Floods do not incite panic, hysteria, or rioting.

## Pre–Disaster Activities

The majority of the deaths and destruction created by floods are preventable. It is important to note that the public and those supporting them, such as engineers, planners, and politicians, need to understand the nature of the hazard so that decisions and commitments can be made to implement mitigation measures to reduce flood damage. Reducing the harmful effects of flood requires actions on three fronts:

1. Reducing the vulnerability of the physical settlements and structures in which people live;
2. Reducing the vulnerability of the economy; and
3. Strengthening the social structure of a community so that coping mechanisms can help absorb the impact of the disaster and promote rapid recovery.

The first step in reducing vulnerability for human settlements is to identify the high-risk areas. This is done by relating the effects of the flood to the terrain and to the probability that such an event will occur. This activity is addressed through mapping the community. Flood risk mapping would indicate the areas likely to be covered by water during floods of given magnitude. The second step in vulnerability reduction is to identify the communities that are particularly susceptible to damage or destruction, particularly poor communities. Reduction of vulnerability may also involve:



- Development of extensive public awareness programs to inform the public about the hazards and illustrate what can be done to prevent a disaster
- Land–use zoning to control development
- Construction of protective works, such as embankments, to protect from flooding
- Restrictive development regulations to ensure that any development meets certain standards that take into consideration the threat to the site
- Land swaps, which would provide alternatives to development of the site
- Imposition of design criteria or building standards to govern construction
- Development of flood–resistant construction techniques
- Conducting a program for building industry workers and the general public to introduce improved construction techniques
- Modifying and strengthening existing structures
- Constructing raised areas or buildings specified as refuges if evacuation is impossible
- Development of incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety
- Development of incentives to encourage future development on safer sites and safer methods of construction, such as favorable taxation, loans, or subsidies to qualifying building methods or sites
- Diversification of agricultural production—identification and planting of flood–resistant crops or adjusting planting season when possible to avoid coinciding with the flood season
- Establishment of cash and food reserves
- Development of family savings programs to establish cash reserves
- Identifying and strengthening local organizations that serve as coping mechanisms
- Reforestation and range management to increase absorption and to reduce rapid runoff in mountainous areas

## **Preparedness Activities**

Preparedness activities include:

- Developing a disaster preparedness plan to sequence the activities and responsibilities of each participant
- Developing warning and evacuation procedures for people threatened by floods
- Training for first aid and trauma and maintaining stocks of medical supplies
- Establishing an emergency communication system regarding evacuation, health, safety, and security
- Reviewing the siting of critical facilities such as hospitals, government buildings, communications installations, and other structures

## Post–Disaster and Emergency Activities

Initial response by local authorities after a flood includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short–term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging

Initial response by foreign aid organizations includes:

- Financial assistance
- Assistance in reopening roads
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification

Secondary response by local authorities after a flood includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Repair and/or reconstruction of housing
- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business, and institutions

## References for Floods

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Hughes, R. “The Effects of Flooding upon Buildings in Developing Countries.” *Disasters* 6(3): 183–194, 1982.

Owen, J.H. *Equipment for Flood and Flash Flood Warning Systems*. Washington, DC: U.S. Department of Commerce, 1980.



Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

Schware, R. Flood *Forecasting and Warning: The Social Value and Use of Information in West Bengal*. Geneva: United Nations Research Institute, 1981.

Schware, R. "Official and Folk Flood Warning Systems: An Assessment." *Environmental Management* 6(3): 209–216, 1982.

U.S. Water Resources Council. *Regulation of Flood Hazard Areas to Reduce Flood Losses*. Washington, DC: USWRC, 1972.





## *Hurricanes*

A hurricane is a type of tropical cyclone that occurs in the Northern Hemisphere and has winds that have reached a constant speed of 74 mph (119 kph) or more. They are products of the tropical ocean and the atmosphere. Powered by heat from the sea, they are steered erratically by easterly trade winds and temperate westerly winds, as well as by their own energy. While many hurricanes stay out at sea, many also move ashore. If they move ashore, they bring with them a storm surge of ocean water along the coastline, high winds, tornadoes, torrential rains, and flooding.

Hurricane winds blow in a large spiral around a relatively calm center known as the “eye.” The eye is generally 20 to 30 miles (32 to 48 kilometers [km]) wide, and the storm may extend outward 400 miles (645 km). As a hurricane approaches, the skies begin to darken and winds grow in strength. A single hurricane can last for more than two weeks over open waters and can cut a path hundreds of miles long.

### **Primary and Secondary Effects of Hurricanes**

Disasters from hurricanes occur when the human settlements are vulnerable. Vulnerability is determined by the exposure to the storms, the degree to which the houses and other structures can be damaged, and the likelihood that secondary effects could occur. Secondary effects can include flash floods and a storm surge, a large dome of water often 50 to 100 miles (80 to 160 km) wide that arrives up to five hours before the storm and sweeps across the coastline near where a hurricane makes landfall. Along the immediate coast, a storm surge is the greatest threat to life and property, even more so than high winds. Urban and rural communities in unprotected, low-lying coastal areas exposed to hurricanes, or on river floodplains, are considered vulnerable to hurricanes. The possibility of people drowning is a major concern because of sudden flash flooding. Poverty and underdevelopment are key factors determining vulnerability given the structural weakness of the homes and the higher probability for living in exposed locations.

Hurricanes can cost millions, and sometimes billions, of dollars in damages. During a hurricane, homes, businesses, public buildings, and infrastructure may be damaged or destroyed by high winds and high waves. Debris can break windows and doors, allowing high winds and rain inside homes. Roads and bridges can be washed away by flash flooding, or can be blocked by debris. In extreme storms, the force of the wind alone can cause tremendous devastation, as trees and power lines topple and weak elements of homes and buildings fail. Losses are not limited to the coastline: under the right conditions they can extend hundreds of miles inland. There also may be damage to agricultural land, crops, and foodstuffs.

There are a variety of measures that can be taken—both at the individual and community levels—to reduce vulnerability to hurricane hazards. Simple construction measures, such as the use of storm shutters over exposed glass, and the addition of hurricane straps to hold the roof of a structure to its walls and foundation, have proven highly effective in reducing damage from hurricanes. In addition, more complex mitigation measures can be pursued to further reduce a property’s susceptibility. For example, coastal homes and businesses can be elevated to permit coastal storm surges to pass under living and working spaces. Communities can further reduce their vulnerability to hurricanes through the adoption and enforcement of wind- and flood-

resistant building codes. Sound land–use planning can also ensure that structures are not built in the highest hazard areas.

## **Pre–Disaster Activities**

Reducing the harmful effects of a hurricane requires actions on three fronts:

1. Reducing the vulnerability of physical settlements and residential structures;
2. Reducing the vulnerability of the economy; and
3. Strengthening the social structure of a community so that coping mechanisms can help absorb the impact of the disaster and promote rapid recovery.

The first step in reducing vulnerability for human settlements is to identify the high–risk areas. This is done by relating the effects of the hurricane to the terrain and to the probability that a hurricane will occur. This activity is addressed through mapping the community. The second step in vulnerability reduction is to identify those communities that are particularly susceptible to damage or destruction, particularly poor communities. Reduction of vulnerability may also involve:

- Development of extensive public awareness programs to inform the public about the hazards and illustrate what can be done to prevent a disaster
- Land–use zoning to control development
- Construction of protective works, such as embankments, to protect from flooding
- Restrictive development regulations to ensure that any development meets standards that consider the threat to the site
- Land swaps, which would provide alternatives to development of the site
- Imposition of design criteria or building standards to govern construction
- Development of construction techniques that are resistant to hurricane conditions
- Introducing improved construction techniques to the building industry and general public
- Modifying and/or strengthening existing structures
- Development of incentives to remove unsafe buildings and buildings on unsafe sites or to upgrade their level of safety
- Development of incentives to encourage future development on safer sites and safer methods of construction, such as favorable taxation, loans, or subsidies to qualifying building methods or sites
- Diversification of agricultural production—identification and planting of flood–resistant crops or adjustment of planting season, if possible, to avoid coinciding with hurricane and flood season
- Development of family savings programs to establish cash reserves
- Identification and strengthening of local organizations that serve as coping mechanisms
- Reforestation and range management to increase absorption and reduce rapid runoff in mountainous areas

## Preparedness Activities

Preparedness activities include:

- Developing a disaster preparedness plan to sequence the activities and responsibilities of each participant
- Developing warning and evacuation procedures, including safe evacuation routes and shelters for people threatened by hurricanes, floods, and the destructive hazards that they can cause
- Training in first aid and trauma care and maintaining stocks of medical supplies
- Establishing an emergency communication systems regarding evacuation, health, safety, and security
- Ensuring that disaster supplies are on hand, such as
  - Flashlight and extra batteries
  - Portable, battery–operated radio and extra batteries
  - First aid kit and manual
  - Emergency food and water
  - Nonelectric can opener
  - Essential medical supplies/medicines
  - Money
  - Sturdy shoes
- Additional preparedness activities:
  - Teaching family members how to deal with any in–house utilities in the case of an emergency
  - Protecting the windows of the home or business from high winds or and debris
  - Trimming back dead or weak trees or branches near a home or business
  - Identifying a meeting place in case family members are separated
  - Knowing and sharing contact information

## During a Hurricane Watch

There are a number of activities to take part in during a hurricane watch:

- Listen to the radio for hurricane progress reports
- Check emergency supplies
- Make sure that cars and other vehicles, such as motorcycles have gas
- Bring in outdoor objects and anchor those that cannot be brought inside
- Secure buildings by closing and boarding up windows
- Store perishable food if possible
- Store drinking water in clean containers
- Review evacuation plan
- Moor or move boats to designated safe places; use ropes or chains to secure boats

## During a Hurricane Warning

There are a number of activities in which to take part during a hurricane warning:

- Listen to a battery-operated radio for storm-related instructions.
- If you are in an unsafe building, evacuate it immediately.
- Store valuables and personal papers in a waterproof container on the highest level of the home or business.
- Avoid elevators.
- If you are at home:
  - Stay inside, away from windows, skylights, and glass doors.
  - Keep a supply of flashlights and extra batteries handy. Avoid open flames, such as candles, as a source of light.
  - If power is lost, turn off major appliances to reduce a power surge when electricity is restored.
- If officials indicate evacuation is necessary:
  - Leave as soon as possible. Avoid flooded roads and watch for washed-out bridges.
  - Protect the home from electrical accidents by unplugging appliances and, if possible, turning off the electricity and the main water valve.
  - If possible, tell someone outside of the storm area where you are going.
  - If time permits, and you live in an identified surge zone, elevate furniture to protect it from flooding or move it to a higher floor.
  - Bring pre-assembled emergency supplies, warm protective clothing, blankets, and sleeping bags with you.
  - Lock the house and leave.

## After a Hurricane

- Stay tuned to local radio for information.
- Help injured or trapped persons.
  - Give first aid where appropriate.
  - Do not move seriously injured persons unless they are in immediate danger of further injury.
- Call for help.
- Return home only after authorities advise that it is safe to do so.
  - Avoid loose or dangling power lines and report them immediately to the appropriate authorities.
  - Enter your home with caution.
  - Beware of snakes, insects, and animals driven to higher ground by flood water.
  - Open windows and doors to ventilate and dry your home.
  - Check refrigerated foods for spoilage.
  - Drive only if absolutely necessary and avoid flooded roads and washed-out bridges.
  - If telephone is available, use it only for emergency calls.

- Inspect existing utilities in a damaged home
  - If there is gas heating or air conditioning, check for gas leaks—If there is a smell of gas or there is a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call for help from a neighbor’s home. If gas is turned off for any reason, it must be turned back on by a professional.
  - Look for electrical system damage. If there are sparks, broken or frayed wires, or the smell of hot insulation, turn off the electricity if possible. *Do not step in water to get to a fuse box or circuit breaker. Call for help.*
  - Check for sewage and water line damage. If you suspect sewage lines are damaged, avoid using the toilets. If water pipes are damaged, contact appropriate authorities for help. Do not drink tap water. If there is ice in the refrigerator that was made before the disaster, melt it for drinking water.

## Post–Disaster/Emergency Activities

Initial response by local authorities after a hurricane includes:

- Evacuation
- Search and rescue
- Medical assistance
- Disaster assessment
- Provision of short–term food and water
- Water purification
- Epidemiological surveillance
- Provision of temporary lodging

Initial response by foreign aid organizations includes:

- Financial assistance
- Assistance in reopening roads
- Reestablishing communications contact with remote areas
- Disaster assessment
- Assistance with water purification

Secondary response by local authorities after a hurricane includes:

- Repair and/or reconstruction of infrastructure, housing, and public buildings
- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc.

Secondary response by foreign agencies includes:

- Repair and/or reconstruction of housing



- Creation of jobs
- Credit
- Technical assistance
- Assistance to recovery of agriculture, small business and institutions

## Lessons Learned

The following are lessons learned.

- Outbreaks of cholera do not follow hurricanes. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of hurricanes.
- Extensive food aid is rarely required after a hurricane.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Hurricanes do not incite panic, hysteria, or rioting.
- Hurricane relief and reconstruction programs should be integrated with long-term development programs.

## References for Hurricanes

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## *Drought*

Operational definitions help define the onset, severity, and end of droughts. Research by Donald A. Wilhite, Director of the National Drought Mitigation Center, and Michael H. Glantz, of the National Center for Atmospheric Research, in the early 1980s uncovered more than 150 published definitions of drought. The definitions reflect differences in regions, needs, and disciplinary approaches. Wilhite and Glantz categorized their collection of definitions into four basic approaches to measuring drought: meteorological, hydrological, agricultural, and socioeconomic. The first three approaches deal with ways to measure drought as a physical phenomenon. The last deals with drought in terms of supply and demand, tracking the effects of water shortfall as it ripples through socioeconomic systems.

- **Meteorological drought** is usually an expression of precipitation's departure from normal over some period of time. Meteorological measurements are the first indicators of drought. These definitions are usually region-specific, and presumably reflect a thorough understanding of regional climatology. The variety of meteorologic definitions from different countries at different times illustrates why it is important not to apply a definition of drought developed in one part of the world to another:
  - United States (1942): less than 2.5 mm of rainfall in 48 hours.
  - Great Britain (1936): 15 consecutive days with daily precipitation totals of less than .25 mm.
  - Libya (1964): when annual rainfall is less than 180 mm
  - India (1960): actual seasonal rainfall deficient by more than twice the mean deviation
  - Bali (1964): a period of six days without rain.
- **Agricultural drought** occurs when there is not enough soil moisture to meet the needs of a particular crop at a particular time. Agricultural drought occurs after meteorological drought but before hydrological drought. Agriculture is usually the first economic sector to be affected by drought.
- **Hydrological drought** refers to deficiencies in surface and subsurface water supplies. It is measured as stream flow and as lake, reservoir, and groundwater levels. There is a time lag between lack of rain and lack of water in streams, rivers, lakes, and reservoirs, so hydrological measurements are not the earliest indicators of drought. When precipitation is reduced or deficient over an extended period of time, this shortage will be reflected in declining surface and subsurface water levels.
- **Socioeconomic drought** occurs when physical water shortages start to affect people, individually and collectively. In more abstract terms, most socioeconomic definitions of drought associate it with the supply and demand of an economic good. One could argue that a physical water shortage with no socioeconomic impacts is a policy success. (See below, the Primary Effects of Droughts.)

No single operational definition of drought works in all circumstances, and this is one reason why policymakers, resource planners and others have more trouble recognizing and planning for drought than for other natural disasters. Most drought planners now rely on mathematic indices to decide when to start implementing water conservation measures in response to drought.

## Primary and Secondary Effects of Drought

Drought produces a complex web of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. (The effects of drought can be categorized as economic, environmental, or social. These can be substantial and are discussed in Appendix 3: *The Full Range of Effects of Drought*.) This complexity exists because water is integral to our ability to produce goods and provide services. Impacts are commonly referred to as direct or indirect. Reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitat are a few examples of direct impacts. The consequences of these impacts produce indirect impacts. For example, a reduction in crop, rangeland, and forest productivity may result in reduced income for farmers and agribusiness, increased prices for food and timber, unemployment, reduced tax revenues because of reduced expenditures, increased crime, foreclosures on bank loans to farmers and businesses, migration, and disaster relief programs. Direct or primary impacts are usually biophysical. Conceptually speaking, the more removed the impact from the cause, the more complex the link to the cause. In fact, the web of impacts becomes so diffuse that it is often difficult to come up with financial estimates of damages.

Drought represents one of the most important natural triggers for malnutrition and famine, a significant and widespread problem in many parts of Africa and in other countries as well. Deaths resulting from famine are sometimes mistakenly attributed to drought rather than to other causes such as war or civil strife. Numerous early warning systems have been established in Africa to monitor a wide range of physical and social variables that signal a trend toward food insecurity. The Southern Africa Development Community (SADC), for example, monitors the regional crop and food situation and issues alerts during periods of impending crisis.

The most important determinant of vulnerability is the level of poverty and underdevelopment of a particular group. The poor suffer most in disasters because they usually live in vulnerable conditions and vulnerable areas; furthermore, dramatic increases in population size, distribution, and density increase disaster risk. Urban slums and squatter settlements grow at about twice the average urban rate. Land tenure is also a determinant of vulnerability, especially where there is a scarcity of arable or developed land and poor farmers must engage in agriculture on hazardous land.

## Pre-Disaster Planning and Activities

Planning is the key to drought mitigation. Effective resources management requires a coordinated effort to address the interrelated issues of water conservation and planning for drought. Measures must be considered to increase available water supplies and to improve the efficient use of those supplies, but the specific type of measures put into place must be a result of individual country realities and conditions. Appropriate measures will include structural and nonstructural actions, or a combination of both. A symbiotic relationship exists between water conservation and drought planning: By conserving existing water supplies through efficient management or by developing new water supplies, the potential effects of drought are reduced and mitigation needs are diminished. The issues outlined below should be taken into account in the development of drought mitigation:



- Effective measures to mitigate drought will likely involve water management and conservation programs that provide for more efficient and effective use of water and a series of staged drought preparedness contingency plans which are implemented in steps as drought conditions intensify.
- Water resource management under drought conditions may require the cooperation of a consortium of national, regional, and local interests.
- Actions must be responsive to needs in developing and implementing drought emergency and contingency plans.
- Assistance on various levels will be needed to coordinate water conservation programs, contingency plans for drought–induced water shortages, and voluntary water transfers.
- Effective water quantity and quality management requires consideration of both water supply and water demand.
- Public education and technical assistance are key in promoting water–use efficiencies.
- As water conservation efforts prove successful and water use changes, drought contingency plans will need to be revised.

Water conservation activities can be achieved through various actions that depend upon the particular country conditions. Overall, these actions include:

- Improving the accuracy of seasonal runoff and water supply forecasts
- Modifying project operations
- Improving water scheduling
- Providing onstream, offstream, and underground storage of excess water
- Instituting conjunctive use of surface and ground water
- Implementing water quality management and wastewater reuse
- Reducing water conveyance losses
- Reducing water consumption by changing the type of water application system or using a metered approach if possible
- Advancing water conservation and effective resources management through education and training programs

The value of contingency planning is that it offers the opportunity for all parties to reach agreement about the use of scarce water resources prior to the time of crisis brought about by a drought. Procedural and other considerations that would otherwise delay implementation of the plans should be addressed and resolved during the contingency planning process.

## **Post–Disaster/Emergency Activities**

Initial response by local authorities during a drought includes:

- Medical assistance
- Disaster assessment
- Food and water distribution
- Epidemiological surveillance



- Refugee assistance
- Conflict resolution

Initial response by foreign aid organizations includes:

- Food and water assistance
- Financial assistance
- Disaster assessment
- Refugee assistance

Secondary response by local authorities during a drought includes:

- Creation of jobs
- Assistance to agricultural recovery (loans, seeds, farm equipment, animals), small businesses, fishermen, etc., and
- Repatriation efforts.

Secondary response by foreign agencies includes:

- Creation of jobs
- Credit
- Technical assistance, and
- Assistance to recovery of agriculture, small businesses, and institutions.

## **Lessons Learned**

The following are lessons learned.

- Outbreaks of cholera do not follow droughts. Cholera must be endemic to a community beforehand.
- Waterborne diseases do not increase as a result of droughts.
- Extensive food aid is rarely required after a drought.
- Used clothing is almost never needed, is usually culturally inappropriate and, although accepted by many disaster victims, is almost never worn.
- Blankets can be useful but can usually be found locally and do not need to be imported.
- Assistance by outsiders is most effective in the reconstruction period, not the emergency phase.
- Most needs are met by the victims themselves or their local governments.
- In general, victims do not respond to disasters with abnormal behavior. Droughts do not incite panic, hysteria, or rioting.
- Drought relief and reconstruction programs should be integrated with long-term development programs.

## **References for Droughts**

National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)).



National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)). "The Reclamation States Drought Assistance Act of 1988." Lincoln, NE: NDMC, 1988.

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

## Appendix 3:

### *The Full Range of Effects of Drought*

Many economic impacts of drought occur in agriculture and related sectors, including forestry and fisheries, because these sectors rely on surface and subsurface water supplies. In addition to obvious losses in yields in both crop and livestock production, drought is associated with increases in insect infestations, plant disease, and wind erosion. Droughts also reduce growth and bring increased problems with insects and diseases to forests. The incidence of forest and range fires increases substantially during extended droughts, which in turn places both human and wildlife populations at higher levels of risk.

Loss of income is another indicator used in assessing the impacts of drought because so many sectors are affected. Reduced income for farmers has a ripple effect. Retailers and others who provide goods and services to farmers face reduced business. This leads to unemployment, increased credit risk for financial institutions, capital shortfalls, and loss of tax revenue for local, state, and federal governments. Less discretionary income affects the recreation and tourism industries. Prices for food, energy, and other products increase as supplies are reduced. In some cases, local shortages of certain goods make it necessary to import these goods from outside the affected region. Reduced water supply impairs the navigability of rivers and results in increased transportation costs because products must be transported by rail or truck. Hydropower production may also be significantly curtailed.

Environmental losses result from damage to plant and animal species, wildlife habitat, and air and water quality; forest and range fires; degradation of landscape quality; loss of biodiversity; and soil erosion. Some of the effects are short-term and conditions quickly return to normal following the drought. Other environmental effects linger for some time and some may become permanent. Wildlife habitat, for example, may be degraded through the loss of wetlands, lakes, and vegetation. However, many species will eventually recover from this temporary aberration. The degradation of landscape quality, including increased soil erosion, may lead to a more permanent loss of biological productivity of the landscape. Although environmental losses are difficult to quantify, growing public awareness and concern for environmental quality have forced public officials to focus more attention and resources on these effects.

Social impacts mainly involve public safety, health, conflicts between water users, reduced quality of life, and inequities in the distribution of impacts and disaster relief. Many of the impacts specified as economic and environmental have social components as well. Population out-migration is a significant problem in many countries, often stimulated by greater availability of food and water elsewhere. Migration is usually to urban areas within the drought area or to regions outside it; migration may even be to adjacent countries, creating refugee problems. However, when the drought has abated, these persons seldom return home, depriving rural areas of valuable human resources necessary for economic development. For the urban area to which they have immigrated, they place ever-increasing pressure on the social infrastructure, possibly leading to greater poverty and social unrest. The drought-prone northeast region of Brazil, for example, had a net loss of nearly 5.5 million people between 1950 and 1980. Although not all of this population shift was directly attributable to drought, it was a primary factor for many in the

decision to relocate. This continues to be a significant problem in Brazil and other drought-prone countries.

Drought represents one of the most important natural triggers for malnutrition and famine, a significant and widespread problem in many parts of Africa and in other countries as well. Deaths resulting from famine are sometimes mistakenly attributed to drought rather than to underlying causes such as war or civil strife. Numerous early warning systems have been established in Africa to monitor a wide range of physical and social variables that signal a trend toward food insecurity. The Southern Africa Development Community (SADC), for example, monitors the crop and food situation in the region and issues alerts during periods of impending crisis.

## **Economic Impact**

- Loss from crop production
  - Annual and perennial crop losses
  - Damage to crop quality
  - Reduced productivity of cropland (wind erosion, etc.)
  - Insect infestation
  - Plant disease
  - Wildlife damage to crops
- Loss from dairy and livestock production
  - Reduced productivity of rangeland
  - Forced reduction of foundation stock
  - Closure/limitation of public lands to grazing
  - High cost/unavailability of water for livestock
  - High cost/unavailability of feed for livestock
  - High livestock mortality rates
  - Disruption of reproduction cycles (breeding delays or unfulfilled pregnancies)
  - Decreased stock weights
  - Increased predation
- Range fires
  - Loss from timber production
  - Wildland fires
  - Tree disease
  - Insect infestation
  - Impaired productivity of forest land
- Loss from fishery production
  - Damage to fish habitat
  - Loss of young fish due to decreased water flow
- Loss of national economic growth, retardation of economic development
- Income loss for farmers and others directly affected

- Loss of farmers through bankruptcy
- Unemployment from drought-related production declines
- Loss to recreational and tourism industry
- Loss to manufacturers and sellers of recreational equipment
- Increased energy demand and reduced supply because of drought-related power curtailments
- Costs to energy industry and consumers associated with substituting more expensive fuels for hydroelectric power
- Loss to industries directly dependent on agricultural production, such as machinery and fertilizer manufacturers, food processors, etc.
- Decline in food production/disrupted food supply
  - Increase in food prices
  - Increased importation of food resulting in higher food costs
- Disruption of water supplies
- Revenues to water supply firms
  - Revenue shortfalls
  - Windfall profits
- Strain on financial institutions due to foreclosures, greater credit risks, capital shortfalls, etc.
- Revenue losses to federal, state, and local governments from reduced tax base
- Loss from impaired navigability of streams, rivers, and canals
- Cost of water transport or transfer
- Cost of development of new or supplemental water resources
- Cost of increased groundwater depletion (mining), land subsidence
- Decreased land prices

## **Environmental Impact**

- Damage to animal species
  - Reduction and degradation of fish and wildlife habitat
  - Lack of feed and drinking water
  - Disease
  - Increased vulnerability to predation due to species concentration near water
  - Migration and concentration, including loss of wildlife in some areas and too many wildlife in others
  - Increased stress to endangered species
- Damage to plant species
- Increased number and severity of fires
- Loss of wetlands
- Estuarine impacts and changes in salinity levels
- Increased groundwater depletion, land subsidence

- Loss of biodiversity
- Wind and water erosion of soils
- Reservoir, lake, and drawdown, including farm ponds
- Water quality effects, including salt concentration, increased water temperature, pH, dissolved oxygen, and turbidity
- Reduced flow from springs
- Air quality effects, such as dust, pollutants
- Visual and landscape quality

## **Social Impact**

- Food shortages resulting in decreased nutritional levels, malnutrition, famine
- Loss of human life due to food shortages, heat, suicides, and violence
- Public safety from forest and range fires
- Mental and physical stress, including anxiety, depression, loss of security, and domestic violence
- Health-related low-flow problems such as cross-connection contamination, diminished sewage flows, increased pollutant concentrations, reduced fire fighting capability, etc.
- Increased respiratory ailments
- Increased disease caused by wildlife concentrations
- Increased conflicts
  - Water user conflicts
  - Political conflicts
  - Management conflicts
  - Social unrest, civil conflicts
  - Other social conflicts such as scientific, media-based conflicts
- Disruption of cultural belief systems relating to religious and scientific views of natural hazards
- Reevaluation of social values, including priorities, needs, and rights
- Reduction or modification of recreational activities
- Public dissatisfaction with government regarding drought response
- Recognition of institutional restraints on water use
- Inequity in the distribution of drought relief
- Inequity in drought impacts based on:
  - Socioeconomic group
  - Ethnicity
  - Age
  - Gender
  - Seniority
- Loss of cultural sites

- Loss of aesthetic values
- Reduced quality of life, changes in lifestyle
  - in rural areas
  - in specific urban areas
  - increased poverty in general
- Population migrations from rural to urban areas and into other regions or countries
- Increased data/information needs, coordination of dissemination activities



## *Appendix 4:*

# *Appropriate Roles for Peace Corps Volunteers, by Type of Disaster*

The following pages identify the roles that Peace Corps Volunteers may take in disaster management. Many roles are not hazard–specific and would be appropriate for either full– or part–time assignments. Those that are, are so noted.

## **Appropriate roles in various hazard situations**

There are many ways Volunteers can provide assistance in hazard situations.

**Capacity–building.** Volunteers can utilize community assessments to understand the range of local knowledge about disasters and the capacity to mitigate them. Building on local knowledge, volunteers can further strengthen local capacity by **starting** up and replicating such knowledge and practices.

**Public awareness.** Volunteers can be trained and provided with appropriate materials to conduct public awareness workshops on the nature and risk of hazards and what can be done to mitigate and prepare for them.

**Preparedness planning.** Volunteers can work with the community to develop a local disaster preparedness plan (such as a checklist of actions and people responsible for them). Any preparedness activity, no matter how small, can potentially save lives and reduce property damage.

**Economic protection.** Economic development specialists can encourage the establishment of lending institutions to provide money for housing improvement and encourage the poor to establish cash reserves for possible emergencies. Co–ops are a major source of reconstruction loans to the poor who often cannot qualify for other financial assistance.

**Search and rescue activities.** Volunteers can help form committees that can offer assistance in the wake of a disaster.

**Distribution of relief.** This is an important role in the aftermath of most disasters.

**Distribution of shelter materials.** Given the desire of individuals to hold onto what they have, Volunteers can distribute more appropriate and/or safer building materials.

**Disaster assessment.** With training in disaster management, Volunteers can be instrumental in providing needed information to local or international assistance groups about what needs to be done.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.



**Site selection.** With adequate training in disaster management, and particularly with a background in planning or geology, Volunteers can help city planners conduct risk and vulnerability analyses and advise urban dwellers about safe living areas.

## **Additional roles specific to earthquakes**

**Housing improvement.** If Volunteers have training as engineers and architects, they can play important roles in planning and executing programs to improve local housing and building construction methods to an earthquake-resistant standard in both mitigation and reconstruction programs.

**Structural surveys.** Engineers and architects also can assist in assessing building safety before and after earthquakes.

**Monitoring seismic events.** If Volunteers have special training and background in this area, they may be able to assist authorities in monitoring seismic events. They might also help with the translation of scientific data at the community level.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in-country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to volcanic eruptions**

**Early warning.** Volunteers can be trained and provided with appropriate materials to facilitate early-warning messages and to tailor those messages to the needs of the community.

**Evacuation.** Volunteers can assist with orderly evacuations.

**Housing reconstruction.** Adequately trained Volunteers (i.e., those that have an engineering or construction background) can provide technical assistance to volcano victims.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in-country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to floods**

**Agricultural and food protection.** Volunteers promoting vegetable gardening can introduce flood-resistant, culturally acceptable crops. Agronomists can work with farmers to select alternative farming patterns or flood-resistant crops that mature at times of low risk.

**Harvest protection and food storage.** Appropriate technology specialists can help small farmers build appropriate, strong grain silos to help protect harvests until they are used and/or sold.

**Forestation.** Forestry Volunteers can help reduce vulnerability through reforestation efforts that may significantly reduce rapid rain runoff and subsequent flooding. Volunteers can also promote the use of fuel-efficient woodstoves, if appropriate. This activity helps to lessen deforestation pressure.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to hurricanes and cyclones**

**Food and agricultural planning.** Volunteers promoting vegetable gardening can introduce flood–resistant crops that are culturally acceptable. Agronomists can work with farmers to select alternative farming patterns or flood– and wind–resistant crops that mature at times of low risk.

**Harvest protection.** Appropriate technology specialists can help small farmers build strong grain storage facilities to help protect harvests until they are sold.

**Reforestation and watershed management.** Volunteer foresters can help reduce vulnerability through reforestation designed to reduce rapid rain runoff and subsequent flooding. On lowlands, Volunteers can promote the strategic planting of trees to serve as windbreaks.

**Housing improvement.** Volunteers with a background in engineering, architecture, or the building trades can help families to strengthen existing structures and make them more wind– and water–resistant. Much can be done at little cost, using locally available materials.

**Housing reconstruction.** Volunteers can provide technical assistance to hurricane victims, especially building tradesmen, to improve the performance of new structures and to optimize site selection.

**Building surveys.** Volunteer engineers or architects, if properly trained, can assess the survivability of large buildings such as schools and churches that are commonly designated as hurricane shelters and then work with the community to strengthen structures or identify alternative protection strategies.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## **Additional roles specific to droughts**

**Agricultural and food protection.** Volunteers promoting vegetable gardening can introduce drought–resistant, culturally acceptable crops. Agronomists can work with farmers to select alternative farming patterns or drought–resistant crops.

**Food storage.** Appropriate technology Volunteers can provide small farmers with technical assistance to build appropriate grain silos to help protect harvests.

**Translation services for foreign disaster officials.** Volunteers are known for their language proficiency after short periods of time in–country. This ability can be fundamental when outside officials and workers enter the country to help following a disaster.

## Volunteer Disaster Roles Comparison Chart

While many of the roles of Volunteers are similar across the various types of disasters, there are differences that correspond with the effects of each type of disaster. Trainees/Volunteers should be encouraged to explore the specifics of each of the types of activities in which they might get involved according to the disaster(s) that they are most likely to encounter.

Type of Disaster	Effects	Roles for Volunteers
Earthquake	<b>Primary effects</b> <ul style="list-style-type: none"> <li>• Violent ground movement</li> <li>• Structural movement</li> <li>• Structural failure</li> <li>• Structural collisions</li> <li>• Ground liquification</li> <li>• Injury and death by structural collapse</li> </ul> <b>Secondary effects</b> <ul style="list-style-type: none"> <li>• Landslides</li> <li>• Fires</li> <li>• Tsunamis</li> <li>• Floods</li> </ul>	Public awareness Preparedness planning Economic mitigation Search and rescue activities Distribution of relief Distribution of shelter materials Disaster assessment Translation services Housing site selection Housing improvement Structural surveys Monitoring of seismic events
Cyclone	<b>Primary effects</b> <ul style="list-style-type: none"> <li>• Destruction of human settlements</li> <li>• Death and injuries by drowning, structural collapse, flying objects</li> </ul> <b>Secondary effects</b> <ul style="list-style-type: none"> <li>• Mudslides</li> </ul>	Public awareness Preparedness planning Economic protection programs Housing reconstruction Assistance to other agencies as needed (reconstruction and recovery)
Volcano	<b>Primary effects</b> <ul style="list-style-type: none"> <li>• Damage from volcanic ash (breathing difficulties, contamination of water supplies, electrical storms, collapsing roofs)</li> <li>• Tsunamis, flash floods, earthquakes, rockfalls, mudflows</li> <li>• Sideways directed volcanic explosions (lateral blasts) that can shoot large pieces of rock at very high speeds for several miles</li> </ul>	Public awareness Preparedness planning Site selection Agricultural and food protection Harvest protection Food storage Forestation Economic protection Assistance to other agencies





Type of Disaster	Effects	Roles for Volunteers
Flood	<p><b>Primary effects</b></p> <ul style="list-style-type: none"> <li>• Destruction of vulnerable human settlements (the most important determinant of vulnerability is the level of poverty)</li> <li>• Drowning</li> <li>• Crop and food damage</li> <li>• Undermine farmland</li> <li>• Wash away irrigation systems</li> <li>• Change in the course of rivers or streams</li> </ul> <p><b>Secondary effects</b></p> <ul style="list-style-type: none"> <li>• Mudslides</li> <li>• Epidemics</li> </ul>	<p>Public awareness</p> <p>Preparedness planning</p> <p>Site selection</p> <p>Agricultural and harvest/food protection</p> <p>Food storage</p> <p>Forestation</p> <p>Economic protection</p> <p>Assistance to other agencies</p>
Hurricane	<p><b>Primary effects</b></p> <ul style="list-style-type: none"> <li>• Destruction of vulnerable human settlements</li> <li>• Drowning</li> <li>• Destruction of bridges and roads</li> <li>• Destruction of trees and forest land</li> <li>• Power line destruction and damage</li> <li>• Destruction of agricultural land, crops, food stuffs</li> </ul> <p><b>Secondary effects</b></p> <ul style="list-style-type: none"> <li>• Mudslides</li> <li>• Epidemics</li> </ul>	<p>Public awareness</p> <p>Preparedness planning</p> <p>Site selection</p> <p>Food and agricultural planning</p> <p>Reforestation and watershed management</p> <p>Economic protection</p> <p>Housing improvement/reconstruction</p> <p>Building surveys</p> <p>Assistance to other agencies</p>



Type of Disaster	Effects	Roles for Volunteers
Drought	<p><b>Primary effects</b></p> <ul style="list-style-type: none"><li>• Reduced crop, rangeland, and forest productivity</li><li>• Increased fire hazard</li><li>• Reduced water levels</li><li>• Increased livestock and wildlife mortality rates</li><li>• Damage to wildlife and fish habitat</li></ul> <p><b>Indirect impact of the above</b></p> <ul style="list-style-type: none"><li>• Reduced income for farmers and agribusiness</li><li>• Increased prices for food and timber</li><li>• Unemployment</li><li>• Reduced tax revenues</li><li>• Increased crime</li><li>• Foreclosures on bank loans to farmers and businesses</li><li>• Migration</li><li>• Malnutrition and famine</li><li>• Disaster relief programs</li></ul>	<p>Public awareness Preparedness planning Agricultural and food protection Food storage Economic protection Assistance to other agencies</p>

## Appendix 5:

### Resources and Reference Materials

American Red Cross. *Earthquake*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Fire*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Flood*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Tornado*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Winter Storm*. (Pamphlet.) Washington, DC: ARC, 1998.

American Red Cross. *Your Evacuation Plan: What To Do if a Disaster Threatens and You Need To Leave Home in a Hurry*. Washington, DC: ARC, April 1998.

American Red Cross. *Wildfire: Are You Prepared?* (Pamphlet.) Washington, DC: ARC, 1993.

American Red Cross and the International Federation of the Red Cross and Red Crescent website ([www.redcross.org](http://www.redcross.org)).

Anderson, M.B., and Woodrow, P.J. *Rising From the Ashes: Development Strategies in Times of Disaster*. Boulder, CO: Lynne Rienner Publishers, Inc., 1998. (ICE number CD056)

Caribbean Disaster Emergency Response Agency website ([www.cdera.gov](http://www.cdera.gov)), 2000.

Caribbean Disaster Emergency Response Agency website ([www.cdera.org](http://www.cdera.org)), July 2000. “Report from the Third Caribbean Conference on National Hazards,” Barbados, October 13–15, 1999.

Centers for Disease Control and Prevention website ([www.cdc.gov](http://www.cdc.gov)).

Community Disaster Awareness Education website ([www.redcross.org/disaster.safety](http://www.redcross.org/disaster.safety)).

Cuny, F. *Disasters and Development*. Oxford: Oxford University Press, 1983. (ICE number CD020)

Department of Regional Development and Environment, Executive Secretariat for Economic and Social Affairs. *Disasters, Planning, and Development: Managing Natural Hazards To Reduce Loss*. Washington, DC: Organization of American States, December 1990.

Emergency Preparedness Information Center website ([www.theepicenter.com](http://www.theepicenter.com)).

Federal Emergency Management Agency. *Emergency Management Institute Catalog*. Washington, DC: FEMA, 1999.

Federal Emergency Management Agency. “International Cooperation in Emergency Preparedness and Disaster Management.” Washington, DC: FEMA, June 1999.

Federal Emergency Management Agency, Tropical Storm Watch website ([www.fema.gov.trop.htm](http://www.fema.gov.trop.htm)).

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “FEMA Preparedness.” Washington, DC: FEMA, 2000.

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). International Federation of the Red Cross and Red Crescent. “World Disasters Report Predicts a Decade of Super–Disaster.” Geneva, Switzerland: IFRCRC, June 24, 1999.

Federal Emergency Management Agency website ([www.fema.gov](http://www.fema.gov)). “Oregon Targets ‘Disaster Cycle’—Project Impact Up and Running—Salem.” Washington, DC: FEMA, July 29, 1998.

Hughes, R. “The Effects of Flooding upon Buildings in Developing Countries.” *Disasters* 6(3): 183–194, 1982.

Institute for Business and Home Safety ([www.ibhs.org](http://www.ibhs.org)). “Is Your Home Protected From Hurricane Disaster? —A Homeowner’s Guide to Hurricane Retrofit.” Boston, MA: Institute for Business and Home Safety, 1998.

InterAction. “Weaving Gender in Disaster and Refugee Assistance.” Washington, DC: InterAction, July 1998.

International Association of Volcanology and Chemistry of Earth’s Interior. *Reducing Volcanic Risk: Tavurur Volcano Erupts Near Rabaul Town in Papua New Guinea*. (Video.) Campbell, Australia: IAVCEI, 1997.

International Disaster Information Network website ([www.smamedia.wdnetwork.com/hri/idin/usa.html](http://www.smamedia.wdnetwork.com/hri/idin/usa.html)).

International organizations working in relief and emergency assistance—website ([www.relief.web](http://www.relief.web)).

Kjargaard, J.L. *Kilauea, Close-Up of an Active Volcano*. (Video.) Volcano, HI: Ka’Io Productions, 1994.

Krafft, M. *Understanding Volcanic Hazards: 1982 Eruption of a Galunggung Volcano From Tasikmalaya, Indonesia*. (Video.) Campbell, Australia: International Association of Volcanology and Chemistry of Earth’s Interior, 1995.

List of disaster resources on the Internet—website ([www.agctr.lsu.edu/eden/netresources.htm](http://www.agctr.lsu.edu/eden/netresources.htm)).

National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)). “The Full Range of Effects of Drought (adjunct for section on Droughts).” Lincoln, NE: NDMC, 2000.

National Drought Mitigation Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)), May 2000.

National Drought Migration Center website ([www.enso.unl.edu/ndmc](http://www.enso.unl.edu/ndmc)). “The Reclamation States Drought Assistance Act of 1988.” Lincoln, NE: NDMC, 1988.

National Fire Protection Association website ([www.nfpa.org](http://www.nfpa.org)).

National Institutes of Health. “Disaster Work and Mental Health: Prevention and Control of Stress Among Workers.” Bethesda, MD: NIH, 1983.



National Safety Council and Lowe’s Home Safety Council website ([www.lowes.com](http://www.lowes.com)). “Top 20 for Home Safety.” Itasca, IL: NSC, 1998.

National Weather Service website ([www.nws.noaa.gov](http://www.nws.noaa.gov)).

Office of Volunteer Safety and Overseas Security, Peace Corps. Washington, DC.

Organization of American States website ([www.oas.org](http://www.oas.org)).

Owen, J.H. *Equipment for Flood and Flash Flood Warning Systems*. Washington, DC: U.S. Department of Commerce, 1980.

Pacific Disaster Center website ([www.pdc.org](http://www.pdc.org)).

Pan American Health Organization website ([www.paho.org](http://www.paho.org)).

Peace Corps. *Crisis Management Training Module*. Office of Special Services: Peace Corps/Washington, 1997. (May be available through Medical Office).

Peace Corps. *Evacuation Support Guide: A Guide for Peace Corps Staff*. Washington, DC: Peace Corps, January 2000.

Peace Corps. *Participatory Analysis for Community Action*.. Washington, DC: Peace Corps, 1996. (ICE number M0053)

Peace Corps. Materials from the Mombasa Disaster and Development Conference. Washington, DC: Peace Corps, 1983.

Peace Corps. “Psychosocial Issues in Disasters.” Washington, DC: Peace Corps, 1983.

Post Emergency Action plan. Peace Corps. (Post–specific—see your country director)

Prevention, Mitigation, Preparedness, and Planning Division. *Mitigation Practitioner’s Handbook*. Washington, DC: U.S. Agency for International Development, Bureau for Humanitarian Response, Office of Foreign Disaster Assistance, October 1998.

Sancio, R.T. “Disaster in Venezuela: The floods and landslides of December 1999.” *Natural Hazards Observer*. (Newsletter.) Vol. XXIV, No. 4. Boulder, CO: University of Colorado, Natural Hazards Center, 2000.

Schware, R. “Official and Folk Flood Warning Systems: An Assessment.” *Environmental Management* 6(3): 209–216, 1982.

Schware, R. Flood *Forecasting and Warning: The Social Value and Use of Information in West Bengal*. Geneva, Switzerland: United Nations Research Institute, 1981.

United Nations Disaster Relief Office. *Shelter After Disaster*. New York: UN, 1982.

United Nations High Commission for Refugees website ([www.unhcr.ch](http://www.unhcr.ch)).

U.S. Agency for International Development, Office of Foreign Disaster Assistance website ([www.info.usaid.gov/hum\\_response/ofda](http://www.info.usaid.gov/hum_response/ofda)), 2000. United Nations. “Disasters: A Deadly and Costly Toll Around the World.” New York: UN, 1997.



U.S. Agency for International Development, Office of Foreign Disaster Assistance website ([www.info.usaid.gov/hum\\_response/ofda](http://www.info.usaid.gov/hum_response/ofda)).

U.S. Geological Survey. *Implications for Earthquake Risk Reduction in the United States From the Kocaeli, Turkey, Earthquake of August 17, 1999*. Circular 1193. Washington, DC: U.S. Department of the Interior, January 2000.

U.S. Geological Survey. Center for Integration of Natural Disaster Information. FS 98–166. Washington, DC: U.S. Department of the Interior, December 1998.

U.S. Geological Survey. “The U.S. Geological Survey Recent Highlights—Hazards.” FS 96–248. Washington, DC: U.S. Department of the Interior, December 1997. pp. 188–197.

U.S. Geological Survey. *Perilous Beauty, Hidden Dangers of Mount Rainier*. (Video.) Washington, DC: U.S. Department of the Interior, 1996.

U.S. Geological Survey. *Hurricane Force: A Coastal Perspective*. (Video.) Washington, DC: U.S. Department of the Interior, 1994.

U.S. Geological Survey website ([www.usgs.gov](http://www.usgs.gov)).

U.S. Water Resources Council. *Regulation of Flood Hazard Areas to Reduce Flood Losses*. Washington, DC: USWRC, 1972.



# *PARTICIPANT WORKBOOK*

## **Disaster Preparedness and Mitigation (DPM)**



“An ounce of prevention  
is worth a pound of cure.”



# *WELCOME TO YOUR DISASTER PREPAREDNESS and MITIGATION WORKSHOP*

It is a pleasure to welcome you as a participant in this workshop. This workshop was designed with you and members of the community in which you live in mind. By sharing experiences and exploring new ideas, those participating become both teachers and learners. The ultimate goal of the Workshop is to reduce the negative impacts of and losses caused by future disasters and emergencies through the process of teaching and learning from others, both in the Workshop and in communities. The goals of the Workshop are:

1. To raise the consciousness of Workshop participants about the importance of disaster preparation and mitigation.
2. To reduce the vulnerability of participant communities and lessen the impact of natural disasters through training community leaders and Peace Corps Volunteers in Community Disaster Preparedness.

The primary challenge that this Workshop offers participants is to share what they learn with others and motivate their neighbors to complete Disaster Preparedness or Community Action Plans for their communities. Part One of the Workshop lasts two days and focuses on studying the community in which participants live. Only by knowing their communities well can community members develop realistic, responsive, and adequate Disaster Preparedness Plans. Part Two of the Workshop is designed to help participants share their accomplishments in developing their community Disaster Preparedness Plans. A Community Action Plan will not work unless it is a product of as many segments of the community as possible. Part Two helps participants ensure that this is the case. This Workbook guides participants in the development of their Disaster Preparedness Plans. When the Workshop is over, participants will be better prepared to continue their work in disaster preparedness with and within their communities.

**REMEMBER, SUCCESS DEPENDS ON YOU!**

## SHARING OUR EXPERIENCES

This exercise corresponds to Part One, Session 2 of the In-Service Training (IST). The focus of the exercise is to help Volunteers learn more about typical reactions in disaster situations and, to help them cope with their own possible involvement, to think about how they might react in a disaster.

1. Think about being involved in a hazard just before the worst effects of a disaster hit. You likely would already be experiencing many difficulties.

What are you feeling and thinking? What do you do? What actions does your community take to prepare for what is coming?

2. When the worst effects are taking place, such as bridges collapsing, roads washing out, rivers flooding homes and villages:

What are you feeling and thinking? How do you react? What actions do you take? What happens in your community? What losses occur?

3. After the disaster is over, what steps have been taken and can be taken to ensure that the same thing never happens in the future?

What can you do? What actions can you take? What can your community do? What can the government or other institutions do?

## **THE HISTORY OF OUR COMMUNITY**

**The past can teach us  
what may happen in the future.**

For you, what is a disaster?

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Disasters are human and material losses  
caused by nature or human beings  
that exceed humanity's coping capacity.



## *Community Disaster Preparedness Plan* *for the Community of: \_\_\_\_\_*

### **1. Historical Background:**

The community of \_\_\_\_\_ was founded in \_\_\_\_\_.

Write here an important historical fact (political, educational, or social) about the community in which you live that has been important to the town's development.

What are some of the community's customs—religious, political, or otherwise—that you think are important to the town in which you live?

### **2. Geography of the Area:**

Describe the geography of your region. Include information about the community's location, its physical size, its climate, and the location of any rivers, mountains, and neighboring towns.



**3. Destructive Events:**

**A. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):



**B. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):

**C. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):

**D. In the year \_\_\_\_\_ this community was affected by the following disastrous event:**

Losses and damage suffered were:

Human lives lost:

Number of affected families:

Homes affected:

Crops lost (specify type and quantity):

Livestock lost (specify type and quantity):

Schools lost or damaged:

Bridges lost or damaged:

Roads lost or damaged:

Parks lost or damaged:

Places of worship lost or damaged:

Water system lost or damaged:

Telephone/telegraph system lost or damaged:

Electrical power system lost or damaged:

Other damages (explain):

## **VULNERABILITIES ANALYSIS**

Vulnerabilities are long-term weaknesses that exist in our communities and make us susceptible to damages caused by hazards.

Which ones exist in our communities?

## *HAZARD WORKSHEET*

The hazards and risks that our community faces:





## VULNERABILITIES ANALYSIS

In this section, you will identify the hazards and risks that your community faces, as well as your community's vulnerabilities. To complete the vulnerabilities analysis, you must consider the weaknesses that exist in your community in the face of the hazards you confront.

**HAZARDS:** Potentially dangerous events, such as hurricanes, earthquakes, forest fires, deforestation or heavy rains

**RISKS:** Potential results of a hazardous event

**VULNERABILITIES:** Long-term weaknesses in a community that endanger life and livelihood and are likely to suffer damage as a result of a hazard

Following is an example of one way to complete a vulnerabilities analysis. The hazards this community faces are probably the same ones you described in the previous section on destructive events, although there may be others.

HAZARD	RISK	VULNERABILITIES
Heavy rainfall	Flooding	<ul style="list-style-type: none"> <li>• Corn and bean crops planted near the river</li> <li>• 12 houses near the river</li> <li>• Rope bridge south of the community</li> <li>• Rose Valley Elementary School at the foot of Big Hill</li> </ul>
	Landslides	<ul style="list-style-type: none"> <li>• The road to Sandy Bottom</li> <li>• 16 mud and stick houses located on Big Hill</li> <li>• 235 plots of basic grains planted on unimproved hillsides</li> </ul>
Drought	Crop loss Lack of water	<ul style="list-style-type: none"> <li>• 312 plots of basic grains planted without irrigation system</li> <li>• Low income for 35 subsistence-farming families</li> <li>• The town water system will be unable to supply 50 homes with water</li> </ul>
	Negative impact on residents' health	<ul style="list-style-type: none"> <li>• 125 children under 5 years old</li> <li>• 23 pregnant and/or fertile women</li> <li>• Seniors that fall ill</li> </ul>





Based on the example on the previous page and your community's history, analyze your community's vulnerabilities, hazards, and risks. Use specific information (number of houses, persons, etc.) to describe vulnerabilities.

HAZARD	RISK	VULNERABILITIES

Continue on next page

HAZARD	RISK	VULNERABILITIES

Continue on next page

<b>VULNERABILITIES</b>	
<b>RISK</b>	
<b>HAZARD</b>	

## **RESOURCE and CAPACITY INVENTORY**

Resources and capacities are the strengths  
that exist in our communities.

### **PHYSICAL RESOURCES:**

The physical strengths in our communities, such as vehicles, buildings, stores, parks, and schools.

### **HUMAN RESOURCES:**

The human strengths in our communities, such as nurses, plumbers, teachers, organizations, and clubs.

### **CAPACITIES:**

The functions of each of the physical and human resources that could provide assistance during emergency situations.



## RESOURCE AND CAPACITY INVENTORY

**PHYSICAL RESOURCES:** The physical strengths in our communities, such as vehicles, buildings, stores, parks, and schools.

**HUMAN RESOURCES:** The human strengths in our communities, such as nurses, plumbers, teachers, organizations, and clubs.

**CAPACITIES:** The functions of each of the physical and human resources that could provide assistance during emergency situations.

List your community's physical resources and their respective capacities:

Physical Resources	Capacities

Continue on next page

List your community’s physical resources and respective capacities:

Physical Resources	Capacities



## INVENTORY OF PHYSICAL AND HUMAN RESOURCES AND CAPACITIES

- 1. Organizations.** Fill in the chart on the next two pages with the different organizations in your community, such as: Emergency Committee, Town Council, Environmental Club, Parent Teachers Association, Women's Club, Soccer Team, Religious Groups, and Youth Groups. Specify the name of each group, the president, number of members and the strengths that the group has in the face of your community's vulnerabilities.

The following chart is an example of an inventory of organizations in a community.

Organization (Resource)	President	Number of Members	Strengths (Capacities)
Environmental Committee	Ms. Bird	6	<ul style="list-style-type: none"> <li>• Ms. Bird is great at organizing and motivating people.</li> <li>• The members of the committee are committed to improving the community and would be motivated to help in emergencies.</li> <li>• They can carry out reforestation projects with school children to help reduce future problems with landslides and water shortages.</li> </ul>
The Eagles Soccer Team	Mr. Foot	20	<ul style="list-style-type: none"> <li>• Many of the athletes are experienced leaders and can motivate people.</li> <li>• The players can help in rescue and evacuation and with reconstruction projects.</li> </ul>
Community Emergency Committee	Mr. Boss, Mayor	22	<ul style="list-style-type: none"> <li>• The mayor is well-respected in the community, and people will follow his orders during emergencies.</li> <li>• The mayor can convene monthly Emergency Committee meetings.</li> <li>• The school principal is a member of the Emergency Committee and can organize activities in the school to prepare the students for future emergencies or disasters; for example, she could organize a "Disaster Preparedness Day."</li> </ul>

Based on this example, fill out the organization inventory on the following pages.

Organization (Resource)	President	Number of Members	Strengths (Capacities)

Continue on next page



Organization (Resource)	President	Number of Members	Strengths (Capacities)



2. **Education Resources and Capacities.** In this section, record all the information you can find about education in your community. Include public and private preschools, primary and high schools, technical institutes, and other educational bodies. Teachers and students have strengths that could be excellent resources during emergencies or disasters, as well as the ability to carry out activities to help combat the community's vulnerabilities.

School or Institution (Resource)	Director	Number of Teachers	Number of Students	Capacities

Continue on next page

School or Institution (Resource)	Director	Number of Teachers	Number of Students	Capacities

- 3. Health Resources (Human).** In this section, provide all the information you can about your community's human health resources. Talk to the people to find out their strengths and what they can offer during disasters and emergencies and also in DPM activities. For example, a community health worker in an outlying village may be able to organize a local, village-level emergency committee. Be sure to start at the health center to get names of all the health-related people in the town and nearby villages.

Position	Name	Residence and Place of Work	Capacities
Doctors			
Nurses			
Midwives			
Health Promoters			
Village Health Workers			
Volunteer Health Workers			
Other:			
Other:			

- 4. Medical Equipment and Supplies (Physical Resources-Health).** In this section, list all the health and medical equipment and supplies in your community. Include the health center, private clinics, pharmacies, hospitals, etc. Make note of how the resources can be used during emergencies or disasters. For example, in the health center there may be cots and stretchers, a kitchen, medicine, etc. It is important to complete this section in collaboration with the community health personnel.

Place	Equipment, Materials, and Supplies	What Can They Be Used for?
Health Center		
Pharmacy		
Others: (Specify)		

5. **Security Resources.** If your community has a police station, indicate the name of the person in charge, the number of agents, equipment (i.e. short wave radio, vehicles, arms), and the function of these resources in the event of an emergency or disaster. It is important to fill this section out in collaboration with the person in charge of the police station.

**Human Resources**

Person in charge:\_\_\_\_\_ Number of police or security agents:\_\_\_\_\_

Functions during an emergency:

**Physical Resources/ Security Equipment:**

Equipment	Functions During an Emergency or Disaster

6. **Private–Sector Resources.** In this section list all the private sector resources in your community that can be counted on during a disaster or emergency situation. Be sure to consult with the owner or person in charge to confirm their collaboration. Examples of private–sector resources include boats, cars, trucks, stores, pharmacies, places of worship, safe houses, cooperatives, etc.

Resources	Owner or Person in Charge	Function During an Emergency or Disaster

Continue on next page

Resources	Owner or Person in Charge	Function During an Emergency or Disaster



**WORKSHEET: ANALYSIS EXERCISE**

Analyze the hazards, vulnerabilities, risks, and physical and human resources and capacities.  
Sketch a map showing what you have described.



## **EMERGENCY COMMITTEE and EMERGENCY OPERATIONS CENTER**

The foundation for an adequate response to emergency and disaster situations is a well-prepared Emergency Committee and a well-functioning Emergency Operations Center.



## **EMERGENCY COMMITTEE STRUCTURE:**

President:

Vice President:

Treasurer:

Secretary:

Others:

### **Education Commission:**

Coordinator:

Members:

### **Health Commission:**

Coordinator:

Members:

### **Security Commission:**

Coordinator:

Members:

### **Logistics Commission:**

Coordinator:

Members:

### **Evacuation and Rescue Commission:**

Coordinator:

Members:



## **EMERGENCY OPERATIONS CENTER**

When an emergency arises, the Emergency Operations Center is the place where all the members of the Emergency Committee and the Commissions meet. This is the communications and decision-making center.

The Emergency Operations Center will be staffed by the following personnel from the Emergency Committee and other institutions:

The Emergency Operations Center will be located at:

The alternative site for the Emergency Operations Center will be:

Other important considerations:



## COMMUNITY ACTION PLAN

A good community action plan  
clearly indicates  
what needs to be done  
before, during,  
and after  
an emergency or disaster.



## COMMUNITY ACTION PLAN

A COMMUNITY ACTION PLAN indicates what your community needs to do before, during and after an emergency or disaster. We have discussed the importance of being better prepared for future disasters, and we have identified actions you can take to diminish the effects of future hazards. You have identified the resources in your communities, as well as the people, houses, crops, and other places at greatest risk. Your COMMUNITY ACTION PLAN will take into account all of this information.

On the following pages we provide some suggestions and ideas for activities that each Commission of your Emergency Committee could do as part of their DPM work. These are suggestions from Comisión Permanente de Contingencias (COPECO). Remember, these are only general ideas; we feel certain that you have many other ideas for activities that could be implemented in your communities.

Emergency Committees in larger municipalities will usually have the human resources necessary to organize themselves into the five commissions with the coordinators and members that COPECO recommends. In smaller communities, however, this system may be somewhat difficult to follow. For smaller communities, it is important to carefully analyze your needs and strengths and formulate plans that will carry out the DPM activities that your community deems necessary given the resources that are available to you. That may mean organizing your committee in a different way.

This section of the Workbook has two parts. The first part contains the suggestions for activities that each commission can carry out. The second part provides pages for you to use to create your own COMMUNITY ACTION PLAN.

**EDUCATION COMMISSION: Suggested Activities**

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"> <li>1. Write activities plan for BEFORE, DURING, and AFTER an emergency.</li> <li>2. Revise, adjust, and bring census information up to date.</li> <li>3. Inform and raise consciousness regarding the hazards which the community faces.</li> <li>4. Inform residents about what to do during emergencies.</li> <li>5. Establish means of communication between the Municipal Emergency Committee and the villages.</li> <li>6. Complete census of at-risk population.</li> <li>7. Complete community resource inventory.</li> <li>8. Select a pilot school for implementing emergency education programs.</li> <li>9. Give prevention and preparation talks to different community organizations.</li> <li>10. Coordinate municipality and villages in conducting simulations.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete census of affected population.</li> <li>2. Orient the population by any available means regarding measures to adopt during the emergency.</li> <li>3. Work with other commissions upon request.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete damage and needs assessment.</li> <li>2. Carry out rehabilitation activities at affected educational centers.</li> <li>3. Draw up list of the needs of the affected population.</li> <li>4. Work with other commissions upon request.</li> </ol>



### HEALTH COMMISSION: Suggested Activities

<b>BEFORE</b> Long– and short–term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Promote clean-up and basic sanitation campaigns.</li><li>2. Organize and train first aid brigades.</li><li>3. Train the population in water purification techniques.</li><li>4. Carry out latrine projects.</li><li>5. Promote first aid kit projects with schools and other institutions.</li><li>6. Train people to assist victims.</li><li>7. Share activity plan with the community.</li></ol>	<ol style="list-style-type: none"><li>1. Activate trained groups.</li><li>2. Keep record of physically affected population.</li><li>3. Provide medical attention to sick and injured.</li><li>4. Maintain epidemiological vigilance.</li><li>5. Coordinate with other commissions in basic hygiene in shelters.</li><li>6. Conduct vaccination campaigns.</li><li>7. Maintain sanitary control of food in shelters.</li></ol>	<ol style="list-style-type: none"><li>1. Carry out clean-up campaigns.</li><li>2. Rehabilitate Health Centers.</li><li>3. Supply first aid kits.</li><li>4. Apply sanitary control measures.</li></ol>





### LOGISTICS COMMISSION: Suggested Activities

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Inventory available public and private transportation resources.</li><li>2. Inventory search, evacuation, and rescues resources.</li><li>3. Solicit evacuation and rescue equipment and materials.</li><li>4. Select shelters.</li><li>5. Select centers to receive and distribute aid from outside.</li></ol>	<ol style="list-style-type: none"><li>1. Distribute aid and supplies (water, medication) to shelters.</li><li>2. Transport victims and their belongings to refugee centers.</li></ol>	<ol style="list-style-type: none"><li>1. Receive and distribute on-going donations and aid.</li><li>2. Continual reporting to Emergency Committee.</li><li>3. Transfer victims back to their homes.</li><li>4. Write reports.</li></ol>



### EVACUATION AND RESCUE COMMISSION: Suggested Activities

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Designate evacuation routes.</li><li>2. Select safe areas for shelters.</li><li>3. Inventory evacuation resources.</li><li>4. Coordinate with rescue agencies and institutions to train groups in use of appropriate techniques.</li><li>5. Participate in training and evaluation activities (simulations, drills).</li><li>6. Provide preventive maintenance to evacuation and rescue equipment.</li><li>7. Recruit and train new group members.</li></ol>	<ol style="list-style-type: none"><li>1. Evacuate people from affected areas.</li><li>2. Search and rescue operations for people that may be trapped or affected by flooding.</li><li>3. Provide first aid as needed</li></ol>	<ol style="list-style-type: none"><li>1. Work as needed with other commissions.</li><li>2. Write report.</li></ol>



**SECURITY COMMISSION: Suggested Activities**

<b>BEFORE</b> Long- and short-term preparation	<b>DURING</b> Alert, immediate response, and rescue	<b>AFTER</b> Rehabilitation and reconstruction
<ol style="list-style-type: none"><li>1. Write BEFORE, DURING and AFTER plans.</li><li>2. Assign functions to commission members.</li><li>3. Inventory available resources.</li><li>4. Draw up and practice emergency communication system.</li></ol>	<ol style="list-style-type: none"><li>1. Post personnel at shelters to provide security to victims and personal property.</li><li>2. Send security personnel to affected areas (homes, public and private buildings) to rescue those in need of help and ensure the continued safety of others.</li><li>3. Provide security personnel to assist search, evacuation and rescue teams, and other commissions as needed and to ensure wide-based coverage and on-going strategic intervention.</li></ol>	<ol style="list-style-type: none"><li>1. Continue to safeguard people and property.</li><li>2. Maintain law and order.</li><li>3. Train new volunteers.</li></ol>



## EDUCATION COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



**EDUCATION COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## HEALTH COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



**HEALTH COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## LOGISTICS COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources





**LOGISTICS COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## EVACUATION AND RESCUE COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## EVACUATION AND RESCUE COMMISSION

DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



## SECURITY COMMISSION

Activities to carry out BEFORE

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources



**SECURITY COMMISSION**  
DURING and AFTER Activities

<b>What?</b> Activity	<b>Why?</b> Purpose	<b>How?</b> Steps to take	<b>Where?</b> Place	<b>Who?</b> Person(s) responsible	<b>When?</b> Timeframe	<b>With What?</b> Resources

## **FOLLOW-UP PLAN**

What are we going to do with what we have learned  
at this workshop when we  
return to our communities?



## FOLLOW-UP PLAN

The Follow-Up Plan for each community in the Community Disaster Preparedness Workshop will outline the activities that the participants plan to carry out in their communities prior to the second workshop. For some participants, it will be the beginning of their work in prevention and preparation for future emergencies and disasters. For others, it will be carrying on with work that has already begun in their communities.

**Brainstorm: What ideas do you have for sharing...for motivating...for teaching...the people in your community about community-based disaster prevention and preparedness. Write your ideas below.**



*FOLLOW-UP PLAN FOR THE COMMUNITY OF:* \_\_\_\_\_

**REPRESENTATIVES:** \_\_\_\_\_  
\_\_\_\_\_

ACTIVITY	WITH WHOM?	WHEN?	COMMENTS

Continue on next page



COMMENTS	
WHEN?	
WITH WHOM?	
ACTIVITY	

## RESOURCES

The following Peace Corps materials are available on DPM:

***DPM PST Training Module*** (ICE number T0123)

***DPM IST Training Module*** (ICE number T0124)

***DPM Training Materials Kit*** (ICE number T0125)

**DPM: Integrating Disaster Preparedness and Mitigation In Your Work (Idea Book)** (ICE number M0084)

