

Peace Corps

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## **DPM:**

Integrating Disaster Preparedness  
and Mitigation in Your Work

Idea Book  
M0084

**DPM:  
INTEGRATING  
DISASTER  
PREPAREDNESS  
AND MITIGATION  
IN YOUR WORK**



**Peace Corps**

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## **The Idea Book Series**

This Idea Book is one of a series of booklets produced to share specific activities you may be interested in replicating. Other titles in the series are listed below. These ideas come from the work of Volunteers and others in the development field. Most of the submissions contain only the description printed; there is no additional information. Others were parts of larger reports. Where there are additional reference materials for an idea, notations tell you how to obtain them. There is also a reference section at the end of the booklet. Please contact the appropriate person/group to follow up on the ideas.

You are encouraged to submit your successful activities to this series. You will find a form on the final page of this booklet with instructions.

### **Titles in the Idea Book Series:**

Beyond the Classroom: Empowering Girls

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DPM: Integrating Disaster Preparedness  
and Mitigation in Your Work

### **Potential Titles in the Idea Book Series:**

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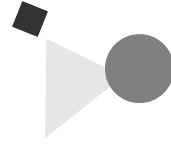
SPA Grants: Small Project Assistance Program  
Supporting Community Development



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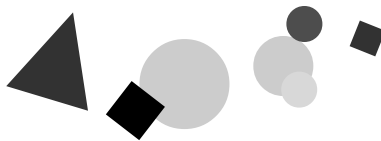




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## Quiz: Do Disasters Matter?

If you are like many Peace Corps Volunteers and other development practitioners, you are probably wondering:

### *Do disasters matter?*

In order to begin to answer that question, take a few minutes to complete the following quiz about disasters in the world today. Answers and commentary, designed to help you think about the relevance of disasters to your work as a Volunteer, are provided on the following pages.

### True/False Quiz about Disasters in the World Today



- 1** The entire world is hit just about equally in terms of the deaths and injuries resulting from natural disasters. **T/F**
- 2** In 1998, deforestation contributed to the flooding which affected the lives of 180 million people in China's Yangtze Basin. **T/F**
- 3** By mid-2000, over three million people in the Horn of Africa were affected by ongoing drought conditions there. **T/F**
- 4** The per capita economic cost of disasters is lower in developing countries than in industrialized nations. **T/F**
- 5** Natural disasters have declined over time and are considered to be less of a threat today than they were 50 years ago. **T/F**

**1**

**False.** Although disasters occur on every continent and in virtually every country, the developing world suffers far more deaths and injuries than the industrialized nations. Of the nearly **one million people killed by natural disasters each decade, over 96 percent die in developing countries.**

Due to a variety of factors, including environmental degradation, population pressure, poverty, and poor infrastructure, people in developing countries are much vulnerable to the human impacts of disasters. Since most Peace Corps Volunteers serve in developing countries, disasters can often have a major impact on their service.

**2**

**True.** China's flooding in 1998 is but one example of the tremendous global impacts of rain and flooding. Conservative calculations by the International Federation of Red Cross and Red Crescent Societies estimate that approximately **10 million people live under constant threat of floods** in the world today.



Public awareness campaign

Caribbean

Flooding, which can result from rain, tsunamis, cyclones, hurricanes, and a variety of other short-term weather patterns, is a “rapid-onset” disaster which is exacerbated by poor environmental management, improper land use planning, and a lack of zoning. Many Volunteers serve in areas that are historically flood-prone, including low-lying areas and island states. In these and all cases where floods are a common natural disaster, preparedness and mitigation activities can help minimize the impacts of flooding and, sometimes, even prevent floods from reaching some communities or areas.

3

**True.** The slow-onset disaster of drought in the Horn of Africa is a classic example of the devastating and complicated impacts of this natural hazard. In Kenya, Somalia, and elsewhere in the Horn, the drought has led to deaths of livestock, agricultural disruption, famine, and even political conflict. **Although droughts come on slowly, they are no less of a disaster than a flood or a volcanic eruption.** Volunteers working in drought-prone areas can help reduce the impacts of drought by integrating preparedness and mitigation activities such as water conservation and drought-resistant agricultural production.

4

**False.** Although industrialized countries suffer great economic losses from natural disasters, due to their expensive roads, housing, and economic infrastructure, the **economic cost of natural disasters can be 20 times higher in terms of gross domestic product (GDP) per capita for developing countries** than for industrialized ones. Within developing countries the poorest of the poor are the worst affected. Volunteers’ work to help with Disaster Preparedness and Mitigation (DPM) can help to lessen the economic impacts of disasters on the communities in which they serve.



**5**

**False.** Natural disasters of all types, from hurricanes and cyclones to droughts and famines, are on the rise. Both the quantity and the intensity of these events have increased dramatically in the last decade. There were three times as many great natural disasters in the 1990s as in the 1960s. Population pressure, increasing urbanization, and the dramatic changes in weather patterns around the world lead **most scientists to predict that the trend towards more frequent and more intense disasters will continue** for the foreseeable future. Thus, even those Volunteers serving in places that have not had many natural disasters in the past should be alert to the possibility of new natural disaster events in the near future.



# Introduction

Hopefully, the quiz has satisfactorily answered the initial question of “do disasters matter?” However, the fact that disasters are tremendously important is not enough to explain why Peace Corps Volunteers might consider integrating DPM into their work. In order to do that, two more questions seem relevant:

## ■ Are natural disasters related to development?

**Disasters and Development:** The devastation of Hurricane Mitch in Central America in 1998 reminded the international community of a key lesson — the root causes of most disasters in developing countries include poverty and inappropriate development. Unsustainable development practices, from hillside agriculture, deforestation, poor watershed management, and inappropriate housing and construction, to inadequate communication and transportation infrastructure, can exacerbate the impacts of even relatively small events like flooding, wind, or drought. Simply responding to disasters, without taking the development issues that can cause them into account, will lead to a vicious spiral of suffering.

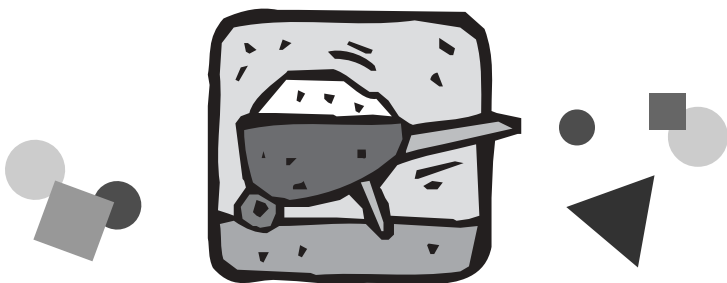
*“We must, above all, shift from a culture of reaction to a culture of prevention. Prevention is not only more humane than cure; it is also much cheaper.... Above all, let us not forget that disaster prevention is a moral imperative, no less than reducing the risks of war.”*

— Kofi Annan, Secretary General of The United Nations  
(*Strategy for a Safer World in the 21st Century: Disaster and Risk Reduction*, Geneva, July 9, 1999)

■ **And if so, is there really anything I can do about natural disasters as a Peace Corps Volunteer?**

Despite the alarming statistics, events such as **droughts, earthquakes and floods do not have to become disasters** with devastating impacts on lives, livelihoods, the economy, and the environment. Disaster Preparedness and Mitigation activities can reduce the destruction and minimize suffering in disaster-prone places, creating truly sustainable development at the same time. This Idea Book provides concrete strategies for Peace Corps Volunteers to integrate DPM in your work, regardless of assignment.

Since one of the root causes of natural disaster vulnerability is poverty, it is not surprising that Volunteers in almost every sector area can make a contribution to Disaster Preparedness and Mitigation in the countries in which they serve. For some Volunteers, the most efficient strategy might be to design complimentary activities that promote disaster awareness and preparedness among counterparts, communities, and partner organizations. For others, DPM activities can be integrated directly into your main sector activity. For example, work in reforestation and environmental education not only promotes sustainable development but also minimizes the impact of future natural disasters. No matter which sector you are in, you can do your part to help minimize the effects of future natural disasters in your community.





Community planning

Dominica

The ideas developed in this book come from a variety of sources, including examples from Crisis Corps Volunteers (CCVs), Volunteers and from other community-based development organizations. Remember that DPM work, like all the work you do as a Volunteer, should be flexible and responsive to the needs of your local community. The decisions about which activities will be most appropriate will depend on the needs and priorities of your community as identified by a participatory appraisal at the beginning of your service. As always, we encourage you to experiment with these ideas and welcome your feedback and suggestions. The bottom line is that effectively incorporating DPM in to your work as a Volunteer can help you to do an even better job of meeting your primary goals, whether those are in environment/agriculture, business development, health, youth, small enterprise development, education or any other area of development.



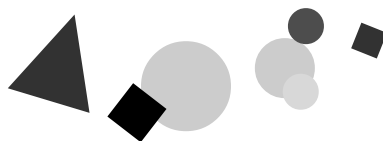
# Disasters 101 – The Role of Volunteers

While it would be impossible to include all of the technical information about disaster management in this short Idea Book, the following section provides a brief overview of some of the most important concepts in DPM. This brief introduction should help you to get a handle on the main concepts as you begin to think about integrating DPM in to your project. Please refer to the other Peace Corps publications, *Disaster Preparedness and Mitigation Pre-Service Training Module* (ICE #T0123) and *In-Service Training Module* (ICE #T0124), for additional information about the technical details. Additional resources are also included in the final section of this publication.

## **Hazards**

Natural hazards are natural events that may threaten human life. The most common kinds of hazards include: wind, rain, hurricanes/cyclones, volcanic eruptions, earthquakes, mudslides, landslides, wildfires, and drought.

**Natural hazards do not always cause natural disasters.** While hazard events such as wind, rain, hurricanes, earthquakes, and extreme freezing conditions **may** threaten human life and well being, that is only the case if it occurs in an area of human settlement. Thus, if a hurricane hits an unpopulated island, it is an example of a hazard, not a disaster.



## Disasters

The definition of a natural **disaster** is different from a natural hazard in two important ways. First, a disaster happens when a natural hazard has human consequences — such as loss of life, livelihoods, or property. Second, an event is considered a disaster if the event is beyond the ability of the local community to cope. Therefore, that same hurricane striking a populated island would be considered a disaster if the consequences were so severe that the local community could not cope using their own resources.

## Vulnerability

Vulnerability to disaster is the concept that explains individuals' and communities' susceptibility to the negative consequences of natural disasters. Disasters are not equal opportunity events and some people are much more vulnerable than others.

Among the many types of vulnerability are:

Physical/Material Vulnerability	<ul style="list-style-type: none"> <li>• Poor Housing</li> <li>• Community Located in Floodplain</li> <li>• Proximity to Volcano</li> </ul>
Social/Organizational Vulnerability	<ul style="list-style-type: none"> <li>• Poverty (lack of savings, insurance)</li> <li>• Women may not feel empowered to make decisions (or other differing roles between men and women)</li> <li>• Age (young people unaware of hazards)</li> <li>• Literacy (non-literate unable to read warning signs)</li> <li>• Organizations lack capacity (local disaster committees have no training)</li> </ul>
Cultural/Attitudinal Vulnerability	<ul style="list-style-type: none"> <li>• Fatalism or cultural beliefs about hazard control</li> </ul>

## ***Capacities***

Despite the considerable vulnerabilities that exist in many communities in which Volunteers serve, it is important to remember that there are also many strengths and resources which can, and should, be mobilized to prepare for and minimize the impacts of natural disasters.

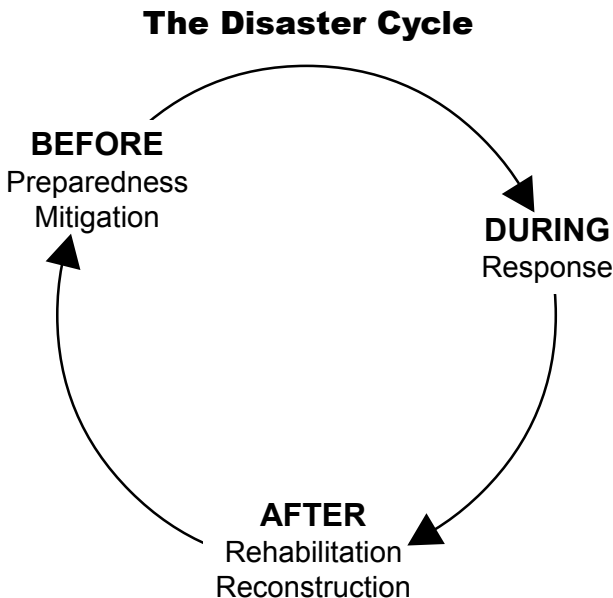
While there are many different kinds of capacities/resources for disaster work at the local level, some of the most important include:

Physical/Material Capacities	<ul style="list-style-type: none"><li>• Roads, bridges, transportation infrastructure</li><li>• Radios, cellular phones, communications systems</li><li>• Water tanks, generators, grain storage silos</li><li>• First aid kits</li></ul>
Human Capacities	<ul style="list-style-type: none"><li>• Carpenters, plumbers, roofers</li><li>• Nurses, teachers</li><li>• Women's committees and youth groups</li><li>• NGOs, clubs and associations</li></ul>
Social/Cultural	<ul style="list-style-type: none"><li>• Traditional "coping mechanisms" (storing food above usual flood levels, planting famine foods)</li><li>• Indigenous Knowledge Systems (early warning systems about rainfall or drought)</li><li>• Traditional "disaster-proof" housing or other technology</li></ul>

The best DPM work builds on existing capacities while reducing local vulnerability to natural disasters.

## ***Disaster Cycle***

In order to effectively plan your interventions in DPM, it is important to understand that there are three basic phases of natural disasters: before, during, and after.



Peace Corps Volunteers are rarely called upon to assist in the “during” or “relief” phase of a disaster. Instead, national and international agencies that specialize in disaster relief are usually the most appropriate organizations to provide services such as search and rescue and first aid. If Volunteers are asked to assist, their work is usually directed by local relief organizations, such as the Red Cross or National Emergency Office, and only lasts for a short duration of the acute emergency phase. Since such actions are usually very short-term and completely dependent on the local situation, they are not discussed in this Idea Book.



The more likely and most effective time for Peace Corps' involvement is in the before phase — before a natural disaster even happens. This is precisely because Volunteers are development workers, not relief agents. The suggestions in this Idea Book focus on two specific kinds of activities that can be conducted during the “before” phase — Disaster Preparedness and Disaster Mitigation.

## ***Disaster Preparedness***

As the name implies, Disaster Preparedness includes the whole range of short-term activities that individual people, community groups, whole communities, regions, and national organizations can put in place to get ready for potential disasters.

While there are dozens of possible preparedness activities, some of the most common include:

- ▶ Early warning systems (tornado sirens, flood gauges, radio warnings);
- ▶ Evacuation routes and drills;
- ▶ Emergency kits (first aid equipment, water, matches, batteries, radio); and
- ▶ Local disaster committee training and preparedness.



## ***Disaster Mitigation***

Disaster mitigation, on the other hand, refers to longer-term activities than can reduce a community's vulnerability to the impacts of potential disasters. Disaster mitigation can minimize, or sometimes even eliminate, the negative impacts on people's health, livelihoods, housing, and general well-being that can be created by wind, water, and other natural hazards. **Put more simply, good development is often the best disaster mitigation.**

Some examples of disaster mitigation activities include:

- ▶ Reforestation;
- ▶ Watershed management;
- ▶ Urban planning and zoning;
- ▶ Improved infrastructure (communications, transportation);
- ▶ Utilization of drought-resistant seed; and
- ▶ Improved construction practices (earthquake-resistant housing).



Reinforced building

Antiga

# DPM Activities in Your Community

As you begin to think about integrating DPM in your work, it is important to consider the specific situation in the community in which you work. In communities that have experienced a major disaster quite recently, interest in and concern about Disaster Preparedness and Mitigation will probably be quite high. In other places, where the most recent flood or earthquake may have been fifty years ago or more, you may need to spend more time soliciting input from the community and raising awareness about DPM issues. In all communities, you will need to be sure to utilize your participatory appraisal processes to determine the specific activities that will be most appropriate.

You can use the following checklist of things to consider as you go ahead with your DPM planning process:

## DPM Checklist:

### Initial Questions and Suggested Approaches

Question	Suggested Approach
<p><b>Are natural hazards a concern in my community?</b> While natural disasters are very common in the developing world, not all communities where Volunteers serve are vulnerable to disasters.</p>	<ul style="list-style-type: none"> <li>• <b>Participatory tool</b> such as oral history, historical map, or seasonal calendars to gather community perspective on disasters.</li> <li>• <b>Data gathering</b> of statistical information/risk maps from agencies such as Weather Service, National Emergency Committee, or Red Cross.</li> </ul>

<p><b>Which types of hazards are most likely and/or most worrisome?</b> Remember that people will sometimes forget about “silent” or distant hazards, such as earthquakes or seemingly dormant volcanoes.</p>	<ul style="list-style-type: none"> <li>• <b>Utilize checklist of common hazards:</b> cyclones/hurricanes, flooding, wind storms, earthquakes, landslides, tsunamis, volcanoes, droughts, forest fires.</li> <li>• <b>Inquire about local hazards</b> in addition to the common list.</li> </ul>
<p><b>What types of vulnerability to disaster exist in my community?</b> People are not at equal risk to disasters. Be sure to think through who might be most vulnerable to disasters — and who you might target for your DPM activities.</p>	<ul style="list-style-type: none"> <li>• <b>PACA tool</b> such as community mapping to identify physical vulnerability (houses in flood-plain).</li> <li>• <b>Participatory tool</b> such as <b>interviews</b> to identify social vulnerability (sex, age, literacy) or economic vulnerability (lack of insurance, lack of access to credit).</li> <li>• <b>Data gathering</b> from local or national organizations that work in DPM.</li> </ul>
<p><b>What types of capacities/resources do people have in my community?</b> Most disaster “victims” have to save themselves due to the long wait for relief to arrive. Try to identify possible local resources that you could draw on.</p>	<ul style="list-style-type: none"> <li>• <b>PACA tool</b> such as community mapping to identify physical resources (generators, evacuation shelters).</li> <li>• <b>PACA tool</b> such as <b>interviews</b> to identify human resources (plumbers, women’s committees, disaster committees) and social/cultural resources (traditional early warning systems, coping mechanisms).</li> </ul>

<p><b>How will my DPM work fit in with existing activities in the country?</b> Most countries have some, and sometimes many, different agencies working in the area of disaster management. Be sure to research existing materials and programs so that you can draw on those and avoid reinventing the wheel.</p>	<ul style="list-style-type: none"> <li>• <b>Data gathering</b> from local or national agencies (Red Cross/Crescent, National Disaster Committee, national NGOs, Civil Defense agency, donor agencies) about existing publications or activities</li> <li>• <b>Interviews</b> with counterparts and other community members about programs that may have worked in the area previously.</li> </ul>
<p><b>How will I integrate DPM into my existing work in the community?</b> In conjunction with your counterpart and others in the community, you will need to decide whether you can integrate DPM into your sector project or you need to add a secondary project about DPM.</p>	<ul style="list-style-type: none"> <li>• <b>Participatory planning</b> with counterparts can help you to decide whether DPM will fit within your main sector project.</li> <li>• <b>Consultation with other Volunteers and with PC staff</b> can also help you to see how other Volunteers at your Post have integrated DPM in similar circumstances.</li> </ul>





## Key Elements of the Planning Process

After you have completed this checklist and the other activities in your participatory appraisal process, you can begin to think about the key elements in planning your DPM activity.

- ☐ **Work with community members** from concept development planning all the way through carrying out the activity. The community in which you are working will know what is important to people, how to phrase your messages, and how to design the activity.
- ☐ **Conduct a Capacities and Vulnerabilities Analysis (CVA)** for your specific community. Such an analysis insures that you consider both the existing resources (capacities) and the possible vulnerabilities to disasters. This analysis should be conducted in a participatory manner and should include as many local people as possible. The following CVA was completed by Volunteers and national agency counterparts in Vanuatu during a DPM mini-workshop:

### Vanuatu CVA – July 2001


	<i>Capacities</i>	<i>Vulnerabilities</i>
<b>Physical/ Material</b>	<ul style="list-style-type: none"> <li>• Airstrips</li> <li>• Roads</li> <li>• Healthcare system</li> <li>• Generators</li> <li>• Public Works Supplies</li> </ul>	<ul style="list-style-type: none"> <li>• Small Islands/Isolation</li> <li>• Lack of food storage on islands</li> <li>• Few options for evacuation</li> <li>• Most remote islands more vulnerable</li> </ul>

<b>Human</b>	<ul style="list-style-type: none"> <li>• Doctors, Dressers</li> <li>• Youth Groups</li> <li>• Women's Groups</li> <li>• School Staff</li> <li>• Church Groups</li> <li>• Nakamals (Men's Houses)</li> </ul>	<ul style="list-style-type: none"> <li>• Dependence on committees (lack of independence)</li> <li>• Age</li> <li>• Sex</li> <li>• Linguistic status</li> </ul>
<b>Social/ Cultural</b>	<ul style="list-style-type: none"> <li>• Healthcare system seen as important and neutral</li> <li>• Chiefs have strong leadership</li> <li>• Traditional architectural knowledge (cyclone resistant)</li> </ul>	<ul style="list-style-type: none"> <li>• Chiefs' power is declining</li> <li>• No cultural sense of preparation</li> <li>• Traditional food storage not viable</li> </ul>

☐ **Incorporate local knowledge** about disasters, natural phenomena, and the ways in which people traditionally cope with disasters. While traditional knowledge can sometimes seem “old-fashioned,” local people often have much more detailed knowledge of their micro-environment than a national weather service. Traditional technologies can be coupled with “scientific” approaches to increase participation and involvement. In Peru, a local NGO adapted traditional building practices to create a more earthquake-resistant house than standard western concrete blocks would be.

☐ **Recognize limitations of local knowledge due to rapidly changing environments.** Although many communities once had excellent knowledge about natural disasters, new conditions and situations can rapidly make that information obsolete. For example, rapid changes in weather patterns, agricultural expansion, road construction, or the local ecosystem can quickly render traditional knowledge about early warning obsolete. Similarly,

urbanization and rapid cultural change can also lead to a disconnect between local beliefs and the needs of DPM. Volunteers should be sensitive to those changes and seek to work with counterparts to address the realities of an often rapidly changing environment.

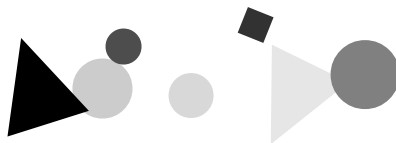
 **Build Capacity** in all of your DPM activities. Remember that the goal in DPM, as in all Peace Corps activities, is to foster self-sufficiency and sustainability. For example, Volunteers in Honduras serve as “advisors”, not as full-time members, to community disaster committees. During their activities, they work to transfer skills and knowledge to their counterparts, instead of taking the lead role themselves. In Ivory Coast, a Volunteer helped to strengthen a women’s group that decided to utilize the profits from their agricultural cooperative to build wells for the families most vulnerable to drought, a good example of long-term disaster mitigation.



In Vanuatu, the “cyclone-proof” and “modern” houses pictured here are excellent examples of the relevance of local knowledge. According to Volunteers placed at this site, the traditional house served as the community shelter during the storm, while the “modern” house lost its roof and required extensive repairs afterwards.



- ☐ **Incorporate WID/GAD** approaches and analyses in your DPM activities. Make sure that your analysis of capacities and vulnerabilities to disaster includes a consideration of both men and women, boys and girls. Such differences can be critically important to activity design. In the Dominican Republic, for example, an analysis revealed that women were excluded from formal disaster planning (a vulnerability) but had substantial resources/capacity in the form of organized women's groups that could be mobilized for disaster preparedness.
  
- ☐ **Utilize participatory methods** such as PACA and Non-Formal Education methods in order to insure that you are reaching all the most vulnerable members of the community. Disaster research around the world shows that the people who are most vulnerable to disasters — the poor, the non-literate, the monolingual, female-headed households, the disabled — are the least likely to be consulted in DPM activities.
  
- ☐ **Consider the potential role of IT** in your DPM activity. While much of the work by disaster agencies is increasingly “high tech,” there is often a tremendous “digital divide” between national agencies and local communities. Utilizing the Peace Corps' IT Initiative information, think about information gathering (e.g., weather monitoring stations to check rainfall levels at the village level) and dissemination (e.g., early warning messages for cyclones or volcanoes) for DPM. Consider how you might provide a connection (via satellite phone or radio) between the national-level GPS mapping system and your community's need for timely information about disaster warning.



- ☐ **Work with municipal authorities** to develop construction standards for disaster resistant structures, zoning ordinances, and emergency action plans. Volunteers may also be involved in infrastructure planning in order to include disaster contingencies during the design phase. Such work can help to insure that DPM is integrated into the responsibilities and day to day activities of municipal government.
  
- ☐ **Consult with and involve partner organizations** in your DPM activities. In order to promote sustainability, avoid duplicating others' work, and to further encourage capacity-building, be sure to understand and involve other organizations working in the DPM area. These might include the National Disaster Management Office, Civil Defense, or local NGOs. In Belize, for example, several Volunteers organized a community DPM workshop that was hosted by the local Red Cross chapter. In Papua New Guinea, Volunteers distributed publications about Tsunami Awareness that had been produced by the national disaster office.
  
- ☐ **Consider the possible intersection of natural disasters and HIV/AIDs** in your project work. Communities with high levels of HIV/AIDs patients may be especially vulnerable to the impacts of natural disasters. The presence of both HIV/AIDs and natural disasters can become a mutually reinforcing phenomenon and Volunteers may want to design activities that address both phenomena.





## DPM Activities Any Volunteer Can Do

Since the best DPM is really just good development, it is not surprising that virtually all Volunteers can incorporate DPM activities in their main sector projects. The key to remember is that the best Disaster Preparedness and Mitigation not only reduces local-level vulnerability to disaster but also increases local capacities, skills, and resources for development. If you chose to implement a secondary activity in DPM, your work may also have the added benefit of enabling you to become more familiar with the community in which you are serving, thus helping you to better design and implement your main sector project as well.

The following are some examples of the variety of DPM activities that Volunteers and counterparts have planned or implemented thus far. Since this list is not exhaustive, you should feel free to be creative and adapt these activities to fit your particular community.

☐ **Disaster Awareness Events** – Volunteers and counterparts have experimented with a variety of community-level activities that are designed to raise awareness and initiate the DPM process. Among the activities that have been tried or planned are:

☐ **Poster Contests** – The Dominican Republic organized a national poster campaign around the theme of “disaster preparedness.” Working with the National Red Cross as a partner organization, the contest featured lesson plans for teachers about disaster issues, the actual poster contest as an awareness-raising event, and the subsequent distribution of the winning poster throughout the country.

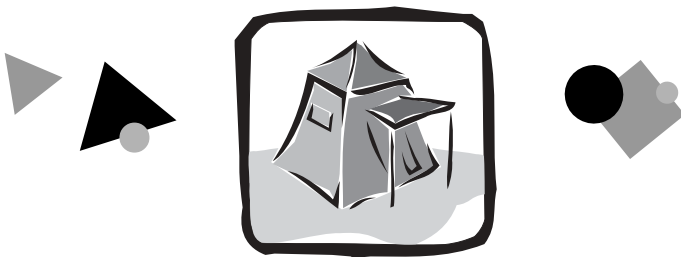
- ☐ **Community Education Campaigns** – In Haiti, Volunteers utilized the Community Content Based Instruction (CCBI) methodology to develop a series of community education campaigns in Haitian creole. These campaigns also incorporated local songs and theater activities.
- ☐ **Evacuation Drills and Disaster Simulations** – Working with the national disaster agency, Volunteers might participate in organized national “disaster awareness days” or create community-level tie-ins to those events. Such events could be easily sponsored in conjunction with schools, youth groups, women’s groups, farmer’s cooperatives, or small business associations. For example, Madagascar is hoping to have Volunteers develop floats for annual disaster awareness parades while Samoa is planning to conduct activities on the same day that the national religious leader issues his annual “prayer for cyclone protection.”



Poster contest

Dominican Republic

- ☐ **Camps, Retreats, and Workshops** – A variety of summer camps and retreats have been designed and implemented by education Volunteers. In El Salvador, DPM was added as an important topic in the existing environmental awareness camps. In Vanuatu, they are thinking about bringing Youth groups to see traditional disaster technology (e.g., cyclone proof housing in traditional villages) as part of their youth retreats.
  
- ☐ **Disaster Preparedness and Mitigation Events** – The range of possible DPM activities is virtually infinite. Many of these activities could be developed as secondary activities, or as part of a DPM strategy that is more closely integrated with your main sector project.
  
- ☐ **Community-Based DPM Workshops** – Peace Corps/Dominican Republic has decided to make a 3-day DPM workshop a requirement for all Volunteers during their first year of service. This workshop focuses on basic disaster terminology and helps communities to begin the process of creating both a **family emergency plan** and a **community emergency plan**. A comparable workshop in the Eastern Caribbean nation of St. Lucia focuses on providing resource materials and skills transfer for Volunteers and counterparts. Many of these workshops include key topics such as emergency communications procedures.



# **Sample Training Plan for a Community-Based DPM Workshop** **Example Follow-Up Plan From Honduras** **Community: Monjarás, Marcovia, Choluteca**

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:
		Implement training workshop for 15 members of the Emergency Committee	1. Talks at Julia Zalaya Institutes 2. Meet with different Commissions	Carry out first Annual Hurricane and Flood Awareness Week	1. Convene Emergency Committee 2. Plan and Implement Disaster Simulation
Responsible Person(s):	Responsible Person(s):	Responsible Person(s):	Responsible Person(s):	Responsible Person(s):	Responsible Person(s):
		Virginia and Mark	Virginia and Mark	Emergency Committee	1. Mark 2. Virginia

- ☐ **Support for Community Disaster Committees** – Volunteers serving in a variety of sectors have been able to provide important capacity-building for local disaster committees. Such support can include linkages to national-level resources, technical assistance, and recommendations about other Peace Corps initiatives, such as WID/GAD. An analysis in Honduras, for example, revealed that disaster committees had failed to account for female-headed households in their disaster planning, making those families more vulnerable to disasters. In Bangladesh, local disaster committees have decided to incorporate a disaster mitigation fund to pay for small-scale projects such as retaining walls and storage facilities for animal fodder.
  
- ☐ **DPM Activities as Mechanism for Cultural Preservation** – Some Volunteers in the Pacific region are researching traditional food storage, disaster coping mechanisms, rituals (such as disaster prevention dances) and traditional building technologies as a possible activity to preserve traditional culture at the local level.
  
- ☐ **Communications Infrastructure Support** – Volunteers might be able to help with communications systems, IT, or other technical linkages to national disaster committees and agencies such as the Red Cross. In some countries, such support has included helping local disaster committees to acquire appropriate communications technology. In Antigua, one Volunteer helped the National Office of Disaster Preparedness to develop a more user-friendly website.
  
- ☐ **Risk Mapping with Community Groups** – Several posts have tried different versions of this PACA activity, adapted for DPM use. Volunteers help Community groups or partner organizations to assess their vulnerabilities to and capacities for responding to disasters. The mapping exercise can be used as a first step in a DPM design process.

## **Community Risk Mapping**

### **How to Add DPM to this PACA Tool**

In order to do an effective risk map, Volunteers should be sure to work closely with counterparts and involve as many members of the community as possible in the process. The more people are involved, the more likely the map will accurately reflect all the capacities and vulnerabilities to natural disasters, not just those of the most vocal or most powerful.

The Volunteer and counterpart should jointly facilitate the following steps to be completed by community members themselves:

#### **Step 1: Complete a physical map of the community.**

This might be done after a “walkabout” through the whole area or it could be done in small groups during a community meeting. Be sure to encourage the participants to include everything that they consider to be part of their “community.” This means housing, schools and other buildings as well as agricultural lands, hunting or grazing areas, and any other place that the community would define as part of their territory.

Participants might use flip chart paper and markers or, if it is more appropriate, locally available materials like stones, sticks, or leaves. If the latter are used, be sure to transfer the information to paper after the exercise so that you (and the community) can have a permanent record of their work.

#### **Step 2: Add vulnerabilities on top of the physical map.**

Using a red marker, pink sticky notes, or other culturally appropriate indicators for danger, warning, or vulnerability, ask participants to mark vulnerabilities to disaster on their map.

*(continued on page 32)*



*(continued from page 31)*

Be sure to use good facilitation skills to help them work through the various types of vulnerability — physical (busy roads, floodplains, poor housing construction), social/organizational (locations of widows, the elderly, young children), and cultural (e.g., religious believers who do not follow national warning messages).

**Step 3: Add capacities on top of the physical map.**

Using a green marker, green construction paper, or other culturally appropriate indicators for resources and capacities, ask participants to mark the capacities on their map.

Again, use your facilitation skills to make sure that they consider physical (water tanks, generators), human (nurses, women's groups), and social/cultural (traditional housing, religious beliefs) that might serve as resources before, during, or after a disaster.

**Step 4: Use your completed Risk Map for your DPM Planning and Activities at the community level.**

Depending on what your next steps are, you may want to make multiple copies of the maps for distribution in schools or churches. You might simply use the map as a planning tool for the local disaster committee and use it during those meetings.



Girls creating vulnerability map

Dominican Republic

- ☐ **Income Generation Activities for Vulnerability Reduction –** Using a SPA grant, a Volunteer in Paraguay helped a local women’s group design and implement a milling project in which they produced chicken feed from soy and corn. The resulting income from the sale of chickens was utilized to minimize/mitigate the effects of a long-term drought in an agricultural area where the failure of the cotton crop had increased women’s vulnerability to the effects of drought.
  
- ☐ **Park or Garden Clean Up –** The common Peace Corps secondary project of park clean up can also serve as Disaster Mitigation in areas that are prone to forest fires or in places where access to evacuation routes is needed.
  
- ☐ **Tree planting or reforestation –** In communities where deforestation and erosion have increased vulnerability to disaster, Volunteers from any sector could initiate reforestation activities through schools, youth groups, women’s groups, or any other local organization. Such reforestation would serve both DPM and environmental management goals.
  
- ☐ **Participation in National Disaster Reporting Systems/Early Warning Systems –** Volunteers and counterparts can serve as a “bridge” to national level disaster organizations. They can disseminate information from the National Red Cross or other agencies to local people but also serve as “data collectors” for reporting systems and early warning systems. In Niger, Volunteers are collecting critical information about “famine early warning,” including market prices for key staples. This information helps relief agencies to target scarce food relief to the neediest areas in the country. In El Salvador, Volunteers and counterparts who had been trained with standard national protocols were among the first people to provide damage reports to the national disaster response agency after a recent earthquake.

☐ **Capacity Building for Local Groups** – In Grenada, Volunteers have provided capacity building to local groups that are interested in DPM in a variety of areas including desktop publishing (to produce disaster materials), web design, classroom activity design, and mechanisms for community outreach.

☐ **Disaster-Proof Construction Techniques** – Volunteers in the Eastern Caribbean have incorporated disaster-proof construction techniques (e.g., hurricane straps) when supporting construction projects such as latrines, schools, and replacement housing. It is especially important to consider physical vulnerabilities and avoid building practices which might exacerbate disaster impacts (e.g., do not build in a flood plain or place a school on the other side of an often-flooded river, endangering the children who would have to cross it).



Gabion to reinforce stream bank

Grenada

## DPM and Agriculture/ Environment

Agriculture/Agroforestry, Environmental Education, and Natural Resource Management (NRM) are being combined in this section because many Volunteers who work in these areas are concerned with the sustainability of the environment as it relates to human activity. Additionally, many of the economies and societies in which Volunteers work are ones in which livelihood security, often agricultural in nature, relies on the natural resource base. These are the very natural resources activities that tend to be quite sensitive to natural disasters, especially floods and droughts, but also to catastrophic freezes, earthquakes, and other natural hazards. Studies from Hurricane Mitch in Central America, for example, show that poor watershed management and improper land use contributed needlessly to the toll of death and destruction in the region. Other studies show that farmers who had applied soil erosion techniques were much less affected.



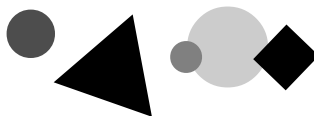
Erosion control – ditches and tall grasses

Guatemala

Volunteers can help contribute to Disaster Preparedness and Mitigation in the agriculture and environment sector through a wide variety of activities. Some actions such as reforestation, watershed management, and soil conservation obviously contribute to both sustainable development and disaster mitigation. However, the full range of food security and sustainable farming technologies, can also be utilized to both promote good environmental management and disaster vulnerability reduction.

## **Ways in Which Natural Disasters Impact Agriculture and Environment**

- ▶ Destroy crops and devastate household incomes;
- ▶ Kill and displace domestic animals;
- ▶ Damage or destroy agricultural infrastructure (processing facilities, markets) and storage facilities;
- ▶ Devastate the next season's seed supply (rotting in the field or being eaten by hungry farmers);
- ▶ Make roads impassable to get time-sensitive crops to market;
- ▶ Increase soil erosion and loss of soil fertility;
- ▶ Dramatically increase incidence of pests and opportunistic species;
- ▶ Wash pollutants (oil, garbage) and human waste into streams and rivers;
- ▶ Further degrade fragile ecosystems, including wetlands, watersheds, and buffer zones; and
- ▶ In the case of drought, agriculturalists, agroforesters, and pastoralists might be forced to migrate in search of livelihoods or wage labor.

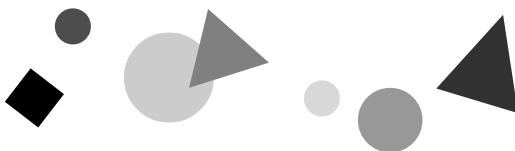


## Ideas for DPM Activities in Agriculture and Environment

- **Extension activities** in Guatemala have focused on activities that promote farmer and partner organization adoption of **sustainable farming practices, improved Natural Resource Management, and biodiversity conservation**.
- **Food security activities** in Africa have focused on **the distribution of drought-resistant seed** and education of farmers about the changing natural environment.
- **Educational tours of poor NRM and disaster impacts** were conducted following several disasters in the Central American region. After showing community leaders and community groups the devastating impacts of poor NRM first hand, many initiated better NRM practices in their communities.
- **Wells, fire breaks, siltation dams, and microcatchments** were completed to mitigate drought in Niger.
- **Agricultural education and extension work in the Pacific** is focusing on the importance of diversification (since monoculture is more vulnerable to natural disasters) and on the importance of traditional food crops (which are more resistant to wind, rain, and sea spray from cyclones).
- **Environmental education** projects with local NGOs incorporated DPM awareness and potential activities in order to increase awareness support capacity-building of NGOs and create ideas for their future activities.



- **Municipal environmental and DPM plans** are being developed by Volunteers and counterparts in the new Municipal Management projects in Guatemala. The new Village-Based Project in Samoa has similar plans to focus on village-level capacity for DPM and other priorities, as defined by the community.
- **Develop construction standards** for disaster resistant structures, including housing, schools, public facilities, and workplaces. Special attention should be given to low cost structures that utilize local materials and know-how. Municipal authorities also have an important role to play in ensuring that these standards are both publicized and enforced.
- **Community Forest Management** training has incorporated DPM training and activities and promoted sustainable forestry throughout Latin America.
- **DPM awareness has been integrated into existing NRM education projects** such as WET, WILD, and Learning Tree in the EMA region.
- **Tree Nursery construction** in Guatemala included not only tree nurseries for four schools but also environmental education, compost training, and the organization of environmental clubs.
- **Fuel-efficient stove** distribution was coupled with NRM training in Nicaragua, in order to decrease deforestation and disaster vulnerability in disaster-prone communities.



- **Low-technology retaining walls** were constructed in Bangladesh, after local communities conducted their own vulnerability analysis and targeted the fields most at risk.
- **Protection of pasture lands from overgrazing and communal systems to protect animal fodder** were set up in drought-prone East Africa.
- **Locate vulnerable or high risk lands** that could benefit from reforestation, gabion and barrier construction, storm water seepage ponds, or some other form of management. These could include riverbanks, steep slopes adjacent to the community, road cuts, urban developments, and natural areas. Volunteers may be able to provide technical assistance throughout this process.
- **Small livestock replenishment** activities in Honduras helped to improve diet and income of those impacted by disaster.





## DPM and the Health Sector

While the most obvious impacts of natural hazards on human health include death and injury due to rising water, high winds, or falling debris, they are only the most immediate impacts that these events have on health, health infrastructure, and health-seeking behavior in the aftermath of a disaster. The effects can last for months or even years. After the major floods in 1999 in Mozambique, for example, there was an outbreak of cholera due to poor sanitation and crowded conditions in the temporary shelters for displaced people.

However, the obvious links between the health sector and DPM also make this sector an obvious candidate for the incorporation of DPM activities. Such efforts can easily be seen as a natural extension of the work that Volunteers are already doing in health and water/sanitation and can often be integrated with comparatively little effort and few, if any, financial resources.



Flood damaged road

Mozambique

## **Ways in Which Natural Disasters Impact the Health Sector**

- ▶ Deaths and severe injuries immediately following the disaster;
- ▶ Increased mental health concerns including depression, alcohol and drug abuse, Post-Traumatic Stress and other anti-social behaviors;
- ▶ Increased risk of communicable diseases, especially when wells are contaminated and sanitation systems are damaged or destroyed;
- ▶ Increased incidence of “second generation” disasters including domestic abuse, sexual abuse, rape, and drug/alcohol abuse;
- ▶ Disruption of transportation systems and damage to health facilities impacts health care delivery and pharmaceutical deliveries — communities may be left without health care services for weeks or months;
- ▶ Healthcare workers leave posts to return to their families — leaving communities without health services;
- ▶ Overcrowding, lack of medicines, and unsanitary conditions possible at major hospitals;
- ▶ Damage to water systems and food storage may exacerbate existing health problems; and
- ▶ Increased risk of non-communicable diseases (e.g., malaria, dengue fever) from disasters that result in standing water.

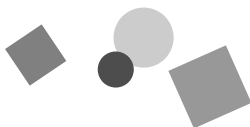


## Ideas for DPM Activities in the Health Sector

- **Water Tank Construction** was used as a mechanism for drought mitigation in Tonga. Organized and implemented by the local youth group, with support from a Volunteer, the project increased the available water supply for humans, livestock, and agricultural crops. The capacity-building process incorporated not only information about tank maintenance but also about good DPM practices and how to better mitigate the constant threat of drought in Tonga.
- Child Survival Volunteers in the Dominican Republic designed a series of activities integrating DPM including: **inviting local Red Cross chapters to conduct first aid training; developing mini-workshops on DPM and health; and developing/distributing first aid kits** to schools and other community facilities.
- **Aqueduct Construction** in the Dominican Republic now integrates DPM into both construction and maintenance, including four important DPM steps in every project design: 1) **Hazard Analysis** and study of possible effects on the water system (e.g., hurricanes might lead to the loss of water in the catchment due to river course changes); 2) **Capacities and Vulnerabilities Analysis** both before construction and after completion; 3) Completion of a **Risk Map** for future water systems in the community; and 4) **Community DPM** in order to insure sustainability.
- **Work with municipal authorities** involved in road, water and sewerage infrastructure to include disaster contingencies during the design phase. For example, increase the size of drainage culverts downstream of areas that are likely to see increased storm run-off due to deforestation and urbanization trends.



- **Support formation and capacity-building of health sub-committees to the disaster committees** at the community level. Such sub-committees can organize for short-term disaster response, first aid, and provision and supply of medical equipment and supplies in the event of a disaster.
- Health Volunteers in Nicaragua **integrated their programming with Environment Volunteers** and jointly worked on the design and implementation of **the fuel-efficient woodstove projects**. These activities served to promote DPM (by decreasing deforestation), encourage better Natural Resource Management, and improve respiratory health — all at the same time.
- Health Volunteers in Micronesia utilized their contacts with local communities **to help recruit grassroots promoters** for an anti-cholera campaign.
- **Health Fairs** in Ecuador were designed to incorporate DPM health information, including information about communicable diseases and the prevalence of second-generation disasters (Post-Traumatic Stress, sexual violence, alcoholism) in temporary shelters.
- **Post-Traumatic Stress Workshops** were developed and implemented in Nicaragua, to help those communities who suffered most from Hurricane Mitch.
- **First aid training** was developed and provided in conjunction with national counterparts in several Central American countries.



## DPM and Education

Natural disasters, such as floods, extreme cold events, and volcanic eruptions can have devastating impacts on formal and informal education alike. The disasters themselves can disrupt learning for days, weeks, or months. The after effects of the event, including trauma, displacement of families, health impacts, and the common decrease in food security all can contribute to negative impacts in the education sector.

Equally important, however, is the extent to which the education sector can be an excellent opportunity for building awareness about disaster preparedness and mitigation and for implementing a variety of activities that can minimize the future negative impacts of disasters in all sectors,



Public awareness campaign

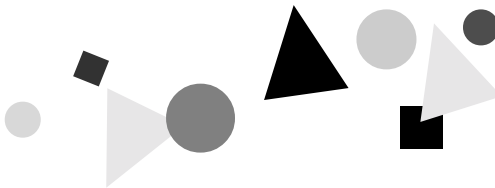
Caribbean

not just education. The process of curriculum development, both formal and non-formal, and the training of future teachers are two of the best examples of places where the integration of DPM can have a tremendous impact at both local and national levels.



## **Ways in Which Natural Disasters Impact the Education Sector**

- ▶ Disruption of school calendar due to disaster impacts, including common use of school buildings as temporary shelters;
- ▶ Disruption of school calendar due to teachers' return to community of origin following the disaster;
- ▶ Lack of access to schools due to disruptions in transportation systems, destroyed bridges, and the like;
- ▶ Damage to school structures and equipment;
- ▶ Psycho-social trauma leading to attention-deficit problems and lack of focus in the classroom;
- ▶ Children removed from school by parents who need their labor to clean homes, remove mud, replant crops, and engage in other livelihood practices; and
- ▶ Lack of access to schools due to families becoming homeless and being relocated in temporary shelters.



## **Ideas for DPM Activities in the Education Sector**



- **Develop evacuation plan and conduct evacuation drills** to minimize risks through the school systems (using appropriate plans for different types of hazards).
- **Promote Disaster Preparedness by incorporating DPM into the curriculum** through a variety of classroom activities. In the Dominican Republic, Volunteers have created a manual which includes a lengthy list of recommended classroom activities that can be incorporated into **geography, natural science, and history** curricula. These include:
  - **Classroom Emergency Plans** (evacuation routes, fire planning);
  - **Family Emergency Plans** (for students to create as homework);
  - **Risk Mapping** (small group work as part of geography lesson)
  - **Observational Walk** across community as “field trip”;
  - **Weather Forecasting exercise** utilizing local periodicals;
  - **Mural Paintings** promoting disaster awareness; and
  - **Dialogues/Theatre/Puppet Shows** about DPM.

In Kiribati, Peace Corps staff and Volunteers are working closely with the Ministry of Education to incorporate DPM information about the most likely hazards in the island nation, drought and sea rise, into the national science curriculum.

- **Incorporate environmental education and DPM** in all teacher training.
- **Work with parent-teacher associations, parents' clubs, and other community groups.**
- **Develop summer projects in disaster awareness and DPM training.** Volunteers in the education sector in Madagascar are planning to develop disaster awareness activities and events during the summer school break.
- **Provide DPM information to school staff and train teachers.** In Nicaragua, a Volunteer and counterpart completed DPM training, including first aid, with school principals and teachers in several communities.
- **Complete mitigation activities to protect the physical infrastructure of the school.** After completing a risk mapping exercise in El Salvador, the local Volunteer helped school personnel to build several retaining walls and save the school from further erosion. In Vanuatu, one Volunteer worked with his secondary school to complete the construction of well covers for the school water supply. Such covers are an important preventive measure to protect the water supply from ash storms from the nearby volcano.
- **Design pilot curriculum for highly vulnerable schools.** A Volunteer in the island nation of Grenada developed a pilot curriculum for those schools that were physically vulnerable to disaster. The Volunteer went on to develop an **instructional video** to sensitize Grenadian youth about natural hazards, including volcanoes and hurricanes. The video, was utilized in informational sessions conducted by the Volunteer and counterpart with over 1200 children throughout the country.



## DPM and Youth

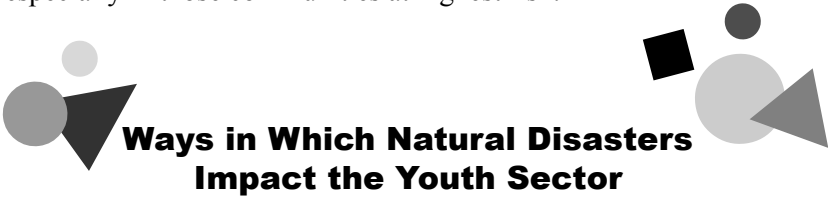
Natural disasters and their aftermath impact the whole community but young people can be especially affected, due to both physical and cultural factors. Physically, young people are often undergoing rapid physiological changes and can be especially susceptible to depression, post-traumatic stress, and the host of communicable diseases which spread in the aftermath of a disaster. Culturally, youth are often the least prepared to deal with a natural disaster because of the sense of invincibility that many young people possess. In the Dominican Republic, for example, many young men reported that they first thought that Hurricane Georges was a “party” and an opportunity to “swing on the coconut trees.”



Hillside retaining wall being built

Grenada

Most Volunteers working with youth will readily tell you that young people also bring a tremendous amount of skills, resources, and capacities. These energies can and should be channeled towards sustainable development and the reduction of vulnerability to disaster, especially in those communities at highest risk.



## **Ways in Which Natural Disasters Impact the Youth Sector**

- ▶ Young people may be called upon to do “double duty” following a disaster, taking on more household responsibilities or wage-earning expectations than they normally would. Sometimes, they are asked to do tasks (childcare, caring for the ill) for which they are not prepared;
- ▶ Depression, post-traumatic stress, and increased exposure to communicable diseases;
- ▶ Increased alcohol abuse, drug use, and other vices among young people;
- ▶ Increased promiscuity, sexual abuse, and cases of rape and incest;
- ▶ Increased sense of hopelessness, lack of direction, and frustration among youth; and
- ▶ Increased vulnerability due to disbelief about disasters and/or lack of personal experience with the devastating impacts of past disasters.

## **Ideas for DPM Activities in the Youth Sector**

- **Strengthen youth groups** to enable their participation as Volunteers with national disaster agencies. In the Pacific, several countries are exploring the possibility of strengthening youth councils at the provincial level and then utilizing them as “extension agents” for DPM activities and disaster response actions as well.
- **Target youth groups for DPM outreach.** In the Eastern Caribbean, youth councils received DPM training from Volunteers and replicated their experiences throughout the country. In Vanuatu, Youth Volunteers are planning to use local Youth Groups to develop and deliver DPM awareness messages using songs, theater, and radio performances.
- **Promote youth groups as agents of Disaster Mitigation programming.** In Tonga, a Volunteer helped the local youth group to design and complete a drought mitigation project, a water tank. Such activities can easily be supported by youth groups that have received DPM awareness training and appropriate capacity-building assistance.
- **Develop and conduct youth camps** and activities that capitalize on youth’s interest in the natural environment. Environmental Youth Camps in El Salvador now incorporate both NRM and DPM approaches in all of their work.



- **Promote non-formal education** about environmental impacts of poor farming practice. Environmental education with youth in Guatemala has included lessons about upstream deforestation and its impacts on downstream disaster incidents. In Tonga and Samoa, the Peace Corps is planning to utilize the Farmer-to-Farmer model to reinforce information about the importance of DPM and sound environmental management.
- **Utilize DPM as a mechanism for inter-generational work.** While elders often have solid cultural knowledge about traditional practices (housing, food storage, agriculture), younger people may have good access to more modern technologies (weather forecasting, satellite early warning). Youth projects might utilize the combination of these skills sets in the creation of Disaster Preparedness Plans and thus build ties between the generations.



# DPM and Small Enterprise Development

Many natural disaster events can be devastating for small businesses and cooperative enterprises in the developing world. The multiple impacts of loss of inventory, supply networks, and the common paralysis of the local market are often simply too great a burden for small business people to endure. It is important that Volunteers working in this sector incorporate disaster awareness and forecasting in the development of business plans so that these negative impacts can be minimized.



Storm surge damage – Hurrican Lenny

Dominica

## **Ways in Which Natural Disasters Impact the Small Enterprise Development Sector**

- ▶ Destruction or damage of inventory and/or equipment due to hazards (wind, water, freezing temperatures) or “secondary” impacts (lack of electricity, running water);
- ▶ Lack of insurance, cash reserves, or backup inventory leads to business decline;
- ▶ Steep decline in sales due to customers’ lack of income, distortion of the local economy due to free disaster relief hand-outs, and customers’ relocation to temporary shelters;
- ▶ Disruption in supply chain and deliveries due to problems with transportation and communication;
- ▶ Potential for increased sales of emergency items (matches, bottled water, batteries) if sufficient supply is on hand;
- ▶ Competition with aid agencies that give free handouts; and
- ▶ Loss of money in local economy due to lost crops, livestock, and other resources.



## **Ideas for DPM Activities in the Small Enterprise Development Sector**

- **Incorporate DPM risk analysis and planning in business plans.** Planning should include site selection (is the business located near a floodplain or do the majority of the customers live on the other side of an oft-flooded river?).
- **Organize business owners** to be more proactive in DPM in their communities.
- **Develop and implement disaster mitigation activities** in the workplace such as provision of back-up generators, designation of dry storage area during rainy season, or alternative supply chain plans in the event of disaster.
- **Develop preparedness plans** for business, staff, and customers. Include consideration of **hazardous materials**.
- **Develop an emergency accounting plan** to deal with short-term cash flow problems. Such a plan might rely on short-term loans, a contingency fund, cooperative lending, or the sale of liquid assets.
- **Consider the products needed by disaster victims** and plan inventory according to the season and likelihood of natural disasters. In the Dominican Republic, Volunteers and counterparts have decided to recommend that small businesses consider **selling disaster preparedness kits** to local people at a fixed price. Such kits might include jerry cans, matches, bottled water, candles, batteries, and battery-powered radios.



# Challenges and Potential Solutions in Integrating DPM into Your Work

Like any new initiative, the work to incorporate DPM can sometimes present challenges for implementation. The following list of challenges and potential solutions summarizes some of the collective wisdom from Volunteers, Crisis Corps Volunteers, and Peace Corps staff members who have been working on the integration of DPM throughout the Peace Corps world. In general, the main advice is for you to be flexible and adaptable as you move forward with your important DPM work.

Challenges	Potential Solutions
<ul style="list-style-type: none"> <li>• Lack of specific tools (information, materials) for DPM</li> </ul>	Utilize the existing resources in your DPM Training Materials Kit, the ICE Catalog, and the additional resources listed at the end of this Idea Book. Research and contact potential partner agencies in your country.
<ul style="list-style-type: none"> <li>• Lack of financial resources for DPM activities</li> </ul>	Most DPM activities (community workshops) can be done for relatively little money. With your counterparts, you may want to seek out existing funding mechanisms both within the Peace Corps (such as SPA grants) and external sources (Ambassador's Special Funds, Rotary, Lion's and other service NGOs).



<ul style="list-style-type: none"> <li>• Complacency/lack of concern about disasters in the local community</li> </ul>	<p>Recognize that this may be a valid cultural perception, depending on how long it has been since the last disaster and also depending on other priorities (poverty, subsistence). Utilize local resources to illustrate importance (e.g., oral histories of older residents who are disaster survivors) and potential threats. Utilize role plays, dramatizations, and stories from similar communities to illustrate significance. (See ICE publications #T0104, #M0042, and #M0052 for ideas about theater productions.)</p>
<ul style="list-style-type: none"> <li>• Fear of losing focus in your project or that your whole project needs to be DPM</li> </ul>	<p>You do not need to address DPM directly to work on reducing vulnerability to disaster. If you are aware of disaster vulnerability in your community, you may address it through the impact of your specific sector.</p>
<ul style="list-style-type: none"> <li>• Fear for personal safety and security due to natural disasters</li> </ul>	<p>Make sure to review your EAP (Emergency Action Plan) for your post. Check with your APCD or other staff if you still have concerns. Educate yourself and prepare your personal disaster kit.</p>
<ul style="list-style-type: none"> <li>• Long-term planning seems overwhelming to local people</li> </ul>	<p>Focus on the immediate steps that can be taken. Try not to dwell on the larger issues that may not be within the community's control (e.g., land tenure).</p>
<ul style="list-style-type: none"> <li>• Sense of hopelessness about rapid-onset disasters (e.g., earthquakes)</li> </ul>	<p>Remember that preparedness is always possible, even for disasters for which there is no early warning. Emphasize the measures that can be taken (having a disaster kit ready, knowing the safest location in the house when a tremor starts) and try not to worry too much about the "what ifs...."</p>



## **Additional Resources on DPM and Working with Your Community**

The following documents and publications are available from ICE. Contact your APCD or you In-Country Resource Center for more information and/or to order these publications.

Publications specifically related to disaster preparedness and mitigation.

**ICE #T0123    *DPM PST Training Module***

**ICE #T0124    *DPM IST Training Module***

**ICE #CD057    *Community Based Mitigation***

**ICE #CD020    *Disasters and Development***

**ICE #CD058    *Reducing Risk***

**ICE #CD056    *Rising from the Ashes***

**ICE #T0125    *DPM Training Materials Kit***

Other publications that will assist you with carrying out DPM activities

**ICE #M0053**    *Participatory Analysis for Community Action*

**ICE #T0104**    *Promoting Powerful People*

**ICE #T01007**    *The New Project Design and Management Workshop Training Manual*

**ICE #T0112**    *Community Content-Based Instruction Training Guide and Working with CCBI Workbook*

**ICE #M0042**    *Nonformal Education Manual*

**ICE #M0052**    *Above and Beyond: Secondary Activities for PCVs*



# Websites and Internet Resources on DPM

<a href="http://www.paho.org">www.paho.org</a>	Pan American Health Organization has an excellent Emergency Preparedness Program with publications and links to other sites in Latin American and around the world
<a href="http://www.redcross.org">www.redcross.org</a>	American Red Cross
<a href="http://www.fema.gov">www.fema.gov</a>	Federal Emergency Management Agency
<a href="http://www.usgs.gov/themes/hazard.html">www.usgs.gov/themes/hazard.html</a>	U.S. Geological Survey
<a href="http://www.udel.edu/DRC/homepage.htm">www.udel.edu/DRC/homepage.htm</a>	Disaster Research Center, University of Delaware
<a href="http://www.ibhs.org">www.ibhs.org</a>	Institute for Business and Home Safety
<a href="http://www.usaid.gov/bhr/ofda">www.usaid.gov/bhr/ofda</a>	Office of Foreign Disaster Assistance (OFDA)
<a href="http://www.colorado.edu/hazards">www.colorado.edu/hazards</a>	Natural Hazards Research Center
<a href="http://www.reliefweb.int">www.reliefweb.int</a>	Relief Web
<a href="http://www.disasters.org/deralink.html">www.disasters.org/deralink.html</a>	Disaster Preparedness & Emergency Response Association
<a href="http://www.uhh.hawaii.edu/~nat_haz">www.uhh.hawaii.edu/~nat_haz</a>	Center for Study of Active Volcanoes, University of Hawaii
<a href="http://www.disasterrelief.org">www.disasterrelief.org</a>	Worldwide Disaster Tracking information
<a href="http://www.ifrc.org">www.ifrc.org</a>	International Federation of Red Cross and Red Crescent Societies

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