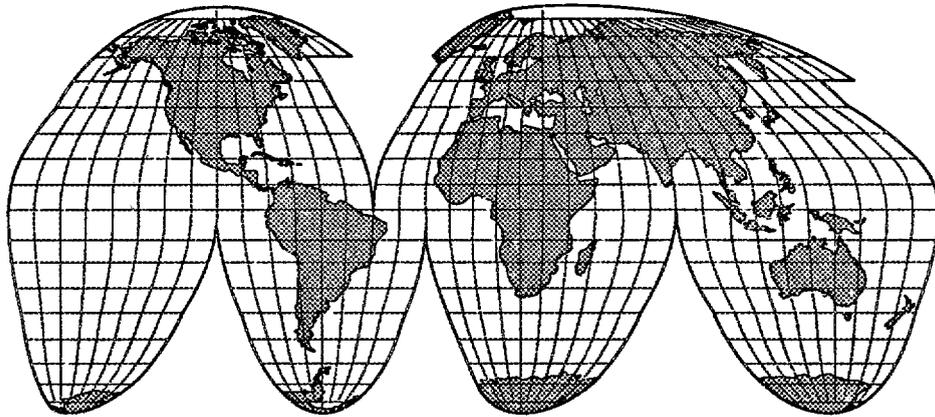


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# SOUTH AMERICA

## **Disaster Prevention, Mitigation, and Preparedness Project**



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**Office of Foreign Disaster Assistance**

February 21, 1992

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MEMORANDUM

February 24, 1992

From: *W.H. Yaeger*  
 William H. Yaeger III, Director, RHUDO/SA

Thru: Peter M. Kimm, Director, PRE/H

To: Andrew S. Natsios, Assistant Administrator, FHA

Subject: South America Disaster Prevention, Mitigation, and Preparedness (PMP) Project

Please find attached the document describing the South America Disaster PMP Project. This regional project was designed by the Regional Housing and Urban Development Office (RHUDO/SA) in coordination with OFDA and critical consultant assistance provided by Abt Associates Inc. It is to be implemented over a three year period with \$2.5 million of OFDA funding to carry-out a full range of technical assistance, training, and policy dialogue support activities.

The activities of the South America Disaster PMP Project will be implemented by mobilizing the participation and collaboration of local governments, community-based organizations, and private sector entities. Since the RHUDO/SA office is located in Quito, we propose to start-up the implementation of this project in Ecuador. Once a number of the project's PMP activities have been successfully field tested, we intend, during Year Two, to reach agreements with USAID Missions in other disaster-prone countries in South America to replicate the implementation of disaster PMP initiatives in those countries.

After you have had the opportunity to review this document, RHUDO/SA requests that you approve the project and its funding the earliest possible date. Thank you!

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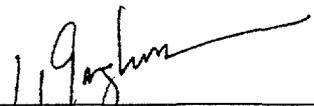
Clearances:

|                                       |                    |                |
|---------------------------------------|--------------------|----------------|
| Sonny Low, RHUDO/SA                   | (in draft)         | Date: 02/21/92 |
| James Dunlap, RCO/SA                  | <i>[Signature]</i> | Date: 2/28/92  |
| Richard Goughnour, CONT/USAID/Ecuador | <i>[Signature]</i> | Date: 2/26/92  |
| Larry Birch, PRE/H                    | _____              | Date: _____    |
| Aaron Benjamin, PRE/H                 | _____              | Date: _____    |
| David Liebson, PRE/H                  | _____              | Date: _____    |
| Jeffrey Evans, LAC/DR                 | _____              | Date: _____    |
| Barry N. Heyman, FHA/OFDA/PMP         | _____              | Date: _____    |
| James R. Kunder, FHA/OFDA             | _____              | Date: _____    |

2482 2

SOUTH AMERICA DISASTER PREVENTION, MITIGATION  
AND PREPAREDNESS PROJECT

The Mission Controller has reviewed this project document and concurs with the proposed methods of implementation and financing.

  
\_\_\_\_\_  
Richard Goughnour  
Controller, USAID/Ecuador

2/26/92  
\_\_\_\_\_  
Date

The Regional Contract Officer has reviewed this project paper and concurs with the proposed methods and schedule for the procurement of goods and services.

  
\_\_\_\_\_  
James Dunlap  
Regional Contract Officer,  
Quito

2/28/92  
\_\_\_\_\_  
Date

**SOUTH AMERICA**  
**DISASTER PREVENTION, MITIGATION,**  
**AND PREPAREDNESS (PMP)**  
**PROJECT**

**FEBRUARY 21, 1992**

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## Appendices

1. Abstracted Sections from " Introducing a Disaster Preparedness and Mitigation Project in South America: A RHUDO/SA Initiative", Abt Associates Inc., January, 1992.
2. February 6, 1992, Memorandum from Gudrun Huden OFDA/PMP and Larry Birch PRE/H on Introducing a Disaster Preparedness and Mitigation Project in South America: A RHUDO/SA Initiative- Abt Associates.
3. Log Frame Matrix

## I. PROGRAM RATIONALE AND DESCRIPTION

### A. Introduction and Summary

The South America Disaster Prevention, Mitigation, and Preparedness (PMP) Project is intended to expand the Regional Housing and Urban Development Office for South America's (RHUDO/SA) capacities to respond to AID's International Disaster Assistance (IDA) Congressional mandate in the areas of shelter and urban management and contribute to AID's goals to implement the Office of U.S. Foreign Disaster Assistance's (OFDA) prevention, mitigation, and preparedness (PMP) strategy. With \$2.5 million of funding to be provided by OFDA and complemented by RHUDO/SA and national government in-kind staff services, the project has been designed to enhance RHUDO/SA's capabilities to help host governments in hazard-prone countries to provide protection against loss of life and property and perfect new approaches to development assistance which will prevent setbacks to AID program goals in countries served by this regional project.

The goal of the South America Disaster PMP Project is to reduce the impact -the loss of lives, damage to housing, and lifelines- and disruption to economic and social development of natural disasters in low-income communities. The program has been designed to address earthquakes, volcanoes, and floods because these natural hazards have been the most common in South America. Early stages of this regional project are to be carried out in Ecuador to test the viability of different project activity approaches before they are replicated in other countries of the region.

The core of this project is to test and implement a variety of technical assistance, training, research, policy dialogue, program development, and other activities through such institutions as local governments, community-based organizations, and private sector entities. Through the field testing and implementation of strategies, methods, and programs by such institutions as those cited above, this project will develop a package of fully tested and proven interventions by the close of the three year project implementation period for RHUDO/SA to offer AID Missions in the region charged with providing disaster PMP assistance to their countries.

The development of the South America Disaster PMP Project is in line with an agreement signed between OFDA and PRE/H in February, 1990, when the two offices agreed to pool resources and work together to meet mutual objectives related to shelter activities. This RHUDO/SA project is part of an on-going OFDA program with RHUDOs to promote disaster mitigation in housing and urban development programs through training of USAID, NGO, and local authorities. Some activities to be implemented by the South America Disaster PMP project will be new to OFDA and will require further design and feasibility study. Such activities will be developed and implemented in close cooperation with AID's Office of Housing (PRE/H) and the AID Mission and country to be served by PMP interventions.

Besides shelter activities, RHUDO/SA contemplates the implementation of PMP Project activities will be financed under other priority sectors of intervention identified by OFDA such as: (1) special studies; and (2) the private sector.

Once OFDA and LAC Bureau approval is given to the PMP Project, it is expected that first year project funding will be allocated to RHUDO/SA to manage and ~~use to~~ carry out the range of activities ~~to be~~ described below.

## **B. Program Rationale**

### **1. Problems the Project Will Address**

As described in greater detail below, this project has been designed for disaster PMP in South America after a careful examination of alternative approaches which can be taken. Among the conclusions reached by the Abt Associates' analysis of possible approaches to disaster PMP (see Appendix 1) is that an effective way to devise appropriate strategies is to draw upon, strengthen, and integrate the efforts of local governments, community-based organizations, and private sector entities to implement disaster PMP initiatives.

#### **a. Local Government Problems**

In case of natural disasters as for urban service needs, people look to local government because it is the government closest to them. Like many other governmental functions, however, disaster prevention and response activities have become centralized and not as readily available to citizens when natural disasters strike.

As major cities experience rapid urban growth, they find it increasingly difficult to play an effective role in responding to new constituent needs. Planning the effective use of scarce resources to better serve their constituencies is a tool still not mastered by many local governments. If local governments must plan for how to mobilize community resources effectively to prevent and mitigate the impacts of natural disasters, they are being asked to enter still another new area to serve constituent needs for which they are not prepared. At the same time, because local governments are the closest to the people, charging them to implement disaster prevention and mitigation activities along with a variety of other functions is logical, but we need to address how demands such as these can best be met.

Assistance to be provided through the South America Disaster PMP Project will help to strengthen local government capabilities to better serve constituent needs in times of natural disasters.

#### **b. Low-Income Community Problems**

In South America low income communities are experiencing a substantial deterioration in their quality of life while population is increasing. Both population growth and poverty are factors that increase natural hazard vulnerability. Because more poor families must find shelter in areas where more affluent people would not live.

For example, a recent study shows that 57 percent of Ecuador's population is considered poor and that 27 percent is living in absolute poverty. In addition, cultural patterns have constrained the assimilation of large segments of the Ecuadorian Indian population into an economically productive modern society. These factors have forced large family groups with less opportunities to settle on disaster prone sites where physical and economic recovery from a natural disaster is difficult.

Most low-income communities lack the technical resources and awareness to deal with problems such as how to mitigate and prevent the full impact of natural disasters. Because community-based organizations frequently have been the only entities interested in serving the poor and disenfranchised populations, the help of such groups must be enlisted to introduce new concepts through training and technical assistance to poor families in low-income communities. Furthermore, the poor as with all people, will listen only to those who they trust.

It has been noted that communities are increasingly concerned with the impact of ecological/environmental degradation as primary problems that hinder development processes. In the past, economic development, environmental preservation, and disaster management were issues neatly compartmentalized within separate sectors. Presently, there is an increasing awareness that these issues are intimately interrelated. Natural and environmental disasters have become mutually reinforcing events. The approach to address natural hazards and environmental concerns together has been judged to maximize the development opportunities of low-income settlements.

### **c. Private Sector Problems**

The private sector -in this case, the construction industry (builders, material producers and suppliers, architects, engineers), insurance companies, and financial institutions- has not been involved in disaster prevention and mitigation activities and consequently has not been able to respond effectively before and after natural disasters. When disaster strikes, the private sector is impeded from responding by:

- procurement and contracting procedures that are slow at best;
- governments which attempt to carry out normal private sector functions such as the procurement of construction materials;
- technically unsound construction practices;
- an insurance system that does not cover shelter and household losses; and
- a financial system that is not prepared to provide credit to families for rebuilding.

In addition, the technical expertise residing in the building professions is generally not focused on natural disasters, and consequently not utilized in PMP activities such as appropriate building codes, and planning and zoning regulations.

## **2. Key Constraints**

Certain constraints must be removed to enable local governments to implement disaster PMP activities. Principally, local government decision-makers and staff must acquire through training and T.A. the basic knowledge required to adopt the appropriate concepts, policies and procedures, and integrate them into normal planning processes to enable local government entities to respond effectively to natural hazards. As it has been noted above, most local governments do not have the human resources nor understanding to meet all the constituent needs placed upon them under normal circumstances. Adding the responsibility to implement natural disaster prevention and mitigation programs, without assistance, would push many local governments beyond the bounds of their institutional capabilities to respond in any adequate fashion to meet still another need.

Another constraint which must be addressed to enable disaster PMP programs to be implemented with any degree of success is the limited number of potentially effective vehicles or intermediaries trusted by low-income communities and those segments of the national population who have not been assimilated into mainstream society. Hence, the South America Disaster PMP Project has identified community-based organizations as important institutional vehicles to use to implement many of the project's range of PMP activities. This is because community - based organizations often have been the only institutions interested in championing the causes and concerns of low-income and disenfranchised groups, who otherwise have been ignored by mainstream society.

The removal of constraints to stimulate private sector participation in disaster PMP programs relates primarily to the creation of conditions attractive to private enterprises in the building professions, the insurance industry, and the financial sector so that they will consider serving new client groups in order to increase business volumes, profit margins, etc. Tapping the resources of such groups by this project will greatly broaden the range of programming options in disaster PMP responses.

## **3. Project Goal, Purposes, Focus, and Expected Outputs**

### **a. Goal**

The goal of the South America Disaster PMP Project is to reduce the impact - the loss of lives, damage to housing, and lifelines -and disruption to economic and social development of natural disasters in low-income communities.

PMP activities in terms of lifelines in Ecuador will be limited to initiatives related to making infrastructure systems in targeted low-income communities more disaster resistant . That is, though training and technical assistance, the project will seek to provide new considerations and

concepts to facilitate better decision-making relative to new infrastructure system investments. For example, the Quito Water Authority may find it useful to re-route a trunk water line to a new community, if it were to discover that a proposed routing of the line coincided with the location of an earthquake fault line.

As RHUDO/SA expands its initiative throughout the region, lifelines systems will be addressed as a full strategy. Lifelines play a critical role during natural disasters. Therefore, PMP activities outside of Ecuador will be designed to sustain through selective technical assistance and training interventions continued operations of lifelines in the aftermath of natural disasters. Project assistance could be provided to sustain the operations of such infrastructure lifelines as those that provide water, electricity, transportation (roads, highways, and bridges), fuel, sewage removal, and communications. Also, subject to the availability of project funding and staff time, activities related to how community lifeline facilities might be maintained could be devised. Community lifeline facilities could include such public services as schools, hospitals, police stations, and other vital public utilities. In all cases, RHUDO/SA expects to limit its assistance only to technical assistance and training type interventions through the PMP project. No capital assistance will be offered.

#### **b. Purposes**

The purpose of the project is to achieve the project goal through the active participation and collaboration of local governments, community-based organizations, and private sector entities.

#### **c. Focus**

Relative to the South America PMP Project, the focus of activities to be implemented through each of the three actors can be summarized as follows:

- Local Governments - Assist municipalities to develop and maintain comprehensive and integrated disaster PMP programs. Design programs according to those specific hazards - i.e. earthquakes, volcanic eruptions, flooding - that threaten the community. Provide an agenda to improve the operational capacity of municipalities to be responsive to PMP needs.
- Community - Based Organizations - Foster self-sufficiency in community-based organizations so that they can help low-income community residents help each other in the most effective manner to survive and reduce the impacts of natural disasters whenever they may occur. Additionally, assist communities in the effective use of local and human resources and improve local capabilities to minimize and respond to the effects of natural disasters.
- Private Sector - Increase the involvement of the private sector in PMP programs. Devise strategies to secure private sector contributions to plan for the mobilization of resources to be used during emergencies and in mitigation strategies such as land use and building

codes, standards, and techniques, hazard insurance, and reconstruction credit programs. Also, mobilize efforts which will stimulate the private sector to identify roles, responsibilities, key personnel, institutions, and physical assets to be applied to pre- and post-disaster activities.

As discussed below, the implementation of the South America Disaster PMP Project AID will complement the disaster assistance efforts of other international donors and international and host country institutions such as the organization of American States and the Ecuadorian Civil Defense who also operate in this field. Unlike other disaster assistance programs, however, the South America Disaster PMP Project is focused more upon implementing mitigation and prevention activities while the bulk of the other on-going donor and host country initiatives are generally more appropriately classified as disaster preparedness and relief efforts. To ensure that this project's efforts do not duplicate nor conflict with those of other donors and host country institutions, RHUDO/SA plans to constitute a Disaster PMP Project Advisory Committee with representation by other donors and institutions engaged in disaster assistance in this region to ensure that assistance in this field will be properly coordinated. How the Project Advisory Committee will operate is described below.

#### d. Expected Outputs

At the conclusion of the three-year life of the South America Disaster PMP Project, an illustrative list of project outputs could include:

- Global Project
- A package of fully tested and proven interventions for RHUDO/SA to offer AID Missions in the region.
- Agreements between RHUDO/SA and individual AID Missions about the scope, nature, institutional arrangements, and support of disaster PMP assistance to the Missions' strategic objectives.
- Local Government Project Component
- Institutionalization and adoption of ordinances, codes, and land use regulations that reflect vulnerability and/or risk studies and natural hazard awareness and minimal standards for the informal sector by up to six municipalities in the region.
- Preparation of documentary material about natural hazards and hazard assessment maps for various communities employing methodologies suitable to be used throughout the region.
- Developed training modules and materials which have been tested and modified for integration into comprehensive training programs for elected officials, municipal staff, and

city planning personnel in disaster PMP programming. The training materials can relate to how local governments can mobilize others to participate in PMP activities.

- Community-based Organization Project Component
- Training modules and materials on disaster PMP strategies and activities which have been tested and modified for integration into comprehensive training programs for children, homeowners, communities and community-based organizations with a national scope or grassroots orientation and which can be implemented and replicated throughout the region.
- Training modules and materials, and a TA methodology, about the linkages between PMP activities and the adverse effects of environmental degradation. The training materials will have been tested, implemented and modified for integration into comprehensive disaster PMP/environmental degradation management efforts for both community and national level programs.
- Private-sector Project Component
- Successful integration of the construction industry and the building professions in the processes of the development of municipal codes, regulations, and standards for disaster PMP.
- Model legislation, regulations, contracts, and procedures to permit expeditious involvement of the construction industry in disaster response.
- Guidelines that promote design concepts, materials, techniques, and standards for disaster-resistant housing and lifelines.
- Development of a program by which housing investments of low- and middle- income families can be financially protected in high risk areas and by which providers of vital infrastructure can be protected. The program would encompass working with the insurance industry on such elements as:
  - National legislation, local ordinance enforcement, and community-wide insurance plans which define building risks on an actuarial basis;
  - Technical assistance to municipalities and insurance companies for the preparation of natural risk maps;
  - Development of national insurance policies;
  - Development of local ordinances and laws to regulate the program;

- Development of public/private partnerships to spread risks for protection of commercial and low-to modest income housing;
- Development of non-traditional insurance schemes for very low-income families such as community saving plans that include insurance schemes and programs to reward earthquake-resistant construction in low-income communities;
- Development of insurance by specific hazards -i.e. earthquakes, volcanoes, floods.
- Development of flood hazard mapping and flood insurance rate mapping programs.
- Formalization of arrangements by the private financial sector as the result of project policy dialogue and program development efforts to:
  - Ensure an appropriate degree of disaster resistance in all new housing construction being produced;
  - Provide credit for housing improvements to increase their resistance to natural disasters; and,
  - Provide credit for home reconstruction or repair after natural disasters.

### **C. Project Background**

#### **1. Disaster Vulnerability Considerations**

South America is a region where earthquakes, volcanoes, and floods have caused significant loss of life, damage to the built environment (housing, infrastructure, and lifelines systems) and disruption of the development process. Because the potential reoccurrence of such natural disasters as those cited above is high in such countries in the region as Argentina, Chile, Ecuador and Peru, they have been designated as disaster-prone and target countries to receive OFDA disaster PMP program assistance.

OFDA arrived at its disaster-prone designations based upon a world-wide disaster vulnerability assessment completed in 1991.<sup>1/</sup> This assessment ranked countries for disaster vulnerability after reviewing historical disaster data (1964-1989) and other measures to approximate human and economic asset vulnerability. Disaster severity ratios, which represent the share of a country's population victimized by disasters, were calculated for each country in

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<sup>1/</sup> An Assessment of Worldwide Disaster Vulnerability.  
Heyman, Davis and Krumpke, June 6, 1991.

a region. The vulnerability assessment reviewed each country's projected population for the year 2000 to indicate potential changes in population disaster vulnerability based on differences in projected population growth rates. In addition, OFDA staff estimates of (1) future hazard vulnerability and host country coping capacity and (2) a country status as an AID priority for development programs were considered in selecting target countries for OFDA PMP program assistance. 2/

## **2. OFDA/PRE/H/RHUDO Joint Disaster PMP Programming**

In 1990 OFDA and PRE/H signed an agreement to pool resources of the two offices to work together to meet mutual objectives. RHUDO offices in Kingston, Quito, and Bangkok have played important roles in assisting OFDA with the design and implementation of disaster PMP activities related to shelter in countries where AID development assistance has been provided to shelter and urban development activities.

The South America Disaster PMP Project is part of the joint PRE/H/OFDA programming initiative. Once approved, the RHUDO/SA project will provide regional AID funding assistance to complement AID bilateral assistance for disaster PMP activities which A.I.D. bilateral assistance usually has not been able to provide.

## **3. RHUDO/SA's South America Disaster PMP Project Background**

Based upon the above premises, RHUDO/SA proceeded to design and develop its disaster PMP project for South America in 1991. The project will expand RHUDO/SA's capacity to help A.I.D. Missions offer effective disaster PMP assistance to disaster-prone countries and others in the region.

### **a. Goal**

The project goal is to reduce the impact -the loss of lives, damage to housing, and lifelines- and disruption to economic and social development of natural disasters in low income communities.

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2/ "Draft Disaster Prevention, Mitigation and Preparedness Strategy, FY 1992-1996," Agency for International Development, Bureau for Food and Humanitarian Assistance, Office of U.S. Foreign Disaster Assistance, November, 1991.

**b. Purposes**

To achieve the project goal, specific project purposes are to enhance the active participation and collaboration in disaster PMP activities of (a) local governments; (b) community-based organizations; and (c) the private sector.

**c. Focus**

Because natural disasters often cause such widespread damage and destruction, national governments alone usually do not have the necessary resources to carry out pre- and post-disaster assistance programs. Rather, the involvement of other sectors such as local governments, community-based organizations, and the private sector should be sought. In this way, the effective use of pooled physical, economic and human resources from different sectors can be maximized to mitigate and prevent some of the potential damage and destruction which natural disasters may cause.

In the South America Disaster PMP Project, the participation of each of the actors can be summarized as follows:

- Local Governments
- Assist municipalities to develop and maintain comprehensive and integrated disaster PMP programs. Design programs according to those specific hazards - i.e. earthquakes, volcanic eruptions, flooding - that threaten the community. Provide an agenda to be pursued before and after disasters to improve the operational capacity of municipalities to be responsive to PMP needs.
- Community-Based Organizations
- Foster self-sufficiency in community based organizations so that they can help low-income community residents help each other in the most effective manner to survive and reduce the impacts of natural disasters whenever they may occur. Additionally, assist communities in the effective use of local and human resources and improve local capabilities to minimize and respond to the effects of natural disasters.
- Private Sector
- Increase the involvement of the private sector in PMP programs. Devise strategies to secure private sector contributions to plan for the mobilization of resources to be used during emergencies and in mitigation strategies such as land use and building codes, standards, and techniques, hazard insurance, and reconstruction credit programs. Also, mobilize efforts which will stimulate the private sector to identify roles, responsibilities, key personnel, institutions, and physical assets to be applied to pre- and post-disaster activities.

#### d. Location: Pilot Activities in Ecuador

Selection of Ecuador to carry out the South America Disaster PMP Project's pilot activities was based upon the following considerations:

- Ecuador is one of the most disaster-prone countries in South America. (See the Natural Disaster Assessment in Appendix 1. for details.)
- RHUDO/SA has its headquarters in Quito, which will make it easier to monitor the initiation of a new project in Ecuador.
- Over the past year, RHUDO/SA has developed important relations with national and local institutions. For example, as the result of RHUDO and AID Mission programs with the Municipality of Quito in basic infrastructure program capital assistance and T.A., environmental pollution control assistance, and remote sensing mapping, a dialogue has been initiated by A.I.D. with Quito's very dynamic Mayor Rodrigo Paz, the City's Planning Department staff, the public media, and some influential sectors of the community to raise public consciousness on how to mitigate the impacts of the eruption of an active volcano in the capital city's backyard - Guagua Pichincha - and how to best survive the all too frequent earthquakes which seem to visit this national capital. The remote sensing mapping assistance has resulted in the City Planning Department's implementation of a study to identify areas in the Quito Metropolitan Area where continuing urban growth should be better controlled because of undue natural disaster risks and adverse impacts upon the environment.

In spite of the number of different donors and local institutions such as the OAS, UNDRO, Partners of the Americas, the Children's Television Workshop, and Civil Defense, who have implemented disaster programs in Ecuador, it is safe to say that none approach disaster assistance from the same premise as the South America Disaster PMP Project. That is, as per OFDA's definition of disaster prevention, mitigation, and preparedness, the disaster programs currently being implemented by the Partners of the Americas with the Ecuadorian Civil Defense may be categorized as disaster preparedness and relief efforts. The OAS's hazard mapping program has been concentrated upon the country's rural rather than urban areas. This might be categorized as mainly a disaster preparedness and prevention activity. Both the UNDRO and Children's Television Workshop's assistance would probably be properly categorized as disaster preparedness and prevention efforts.

Therefore, only the South America Disaster PMP Project would fit OFDA's definition of an initiative that offers support to disaster-prone countries in the three areas of disaster prevention, mitigation, and preparedness. In addition, the South America project includes a number of unique features not exhibited by current programs being implemented by the other donors and local institutions cited above:

- The South America Project brings together the resources of three different actors - local

governments, community-based organizations, and the private sector - to join efforts in carrying-out disaster PMP activities.

- Only the South America PMP Project has been designed to implement strategies and activities focused upon the mitigation and prevention of the ravages of natural disasters which might visit a country's housing stock and lifelines.
- Municipalities selected to be served by the South America Project will be among the strongest in terms of organization, personnel, and economic resources and neighborhood communities selected to implement project activities will be those who will be highly organized with community organizations with ample periods of time and long experiences in carrying out self-help programs in the same communities.

#### e. Project Beneficiaries

Direct beneficiaries of this project are those individuals and groups served by activities provided through any of the three project components -i.e. local government, community-based organization, or private sector. They would be those trained by any of the project's variety of training events such as seminars and workshops or exposed to the publications and new technical materials developed by project funding.

Other beneficiaries would be individuals and groups who are direct recipients of a wide range of technical assistance and policy dialogue events provided through any of the three project components. They would represent different types of project target groups including: (a) pilot low income neighborhoods; (b) insurance industry representatives; (c) financial institutions; (d) media representatives; (e) elected local government officials or municipal staff; (f) building professions' groups; (g) national or grassroots oriented NGOs; and (h) credit unions/housing coops.

As it was originally designed as a project to be implemented initially in Ecuador and with the intent that fully tested and proven activities be replicated in other countries of the region, Ecuadorian project beneficiaries will be primarily those from disaster vulnerable cities located in the coastal region and in the Andean highlands region.

Based upon agreements reached with the A.I.D. Missions in Chile and Bolivia to implement PMP activities, the sites in those countries where RHUDO would initiate the project are still subject to be identified. The final choice of cities where the South America PMP Project is to be implemented in either Chile or Bolivia, however, will not be made until the second year of the project's implementation.

It will be one of the major responsibilities of the institutional contract project manager who will be hired to manage the project to first gain a clear understanding of the Chile and Bolivia A.I.D. Mission strategic objectives frameworks governing the implementation of the bilateral development assistance programs in those countries. Within those contexts, RHUDO/SA will be

Table 1

## RHUDO/SA PMP PROJECT BENEFICIARIES - SUMMARY

## ALL ACTIVITIES

## Estimated Number of Direct Beneficiaries

| PROJECT COMPONENT   | YEAR ONE        |                | YEAR TWO         |                | YEAR THREE       |                | LIFE OF PROJECT TOTALS |               |
|---|-----------------|----------------|------------------|----------------|------------------|----------------|------------------------|---------------|
|   | Individuals     | Target Groups  | Individuals      | Target Groups  | Individuals      | Target Groups  | Individuals            | Target Groups |
| <u>Local Government Activities</u>  |                 |                |                  |                |                  |                |                        |               |
| Technical Assistance for city master plans  | -               | 2 <u>1/</u>    | -                | 6 <u>2/</u>    | -                | 6 <u>2/</u>    | -                      | 14            |
| Natural hazard information, vulnerability and insurance rate mapping support -OAS   | -               | 2 <u>1/</u>    | -                | 6 <u>2/</u>    | -                | 6 <u>2/</u>    | -                      | 14            |
| Training for elected officials and municipal staff  | 72 <u>3/</u>    | -              | 1,224 <u>4/</u>  | -              | 1,224 <u>4/</u>  | -              | 2,520                  | -             |
| Training to private sector groups, community groups, and media groups to promote private sector/community participation in PMP activities | 540 <u>5/</u>   | 18 <u>6/</u>   | 1,620 <u>7/</u>  | 54 <u>8/</u>   | 1,620 <u>7/</u>  | 54 <u>8/</u>   | 3,780                  | 126           |
| Sub-Totals  | <u>612</u>      | <u>22</u>      | <u>2,844</u>     | <u>66</u>      | <u>2,844</u>     | <u>66</u>      | <u>6,300</u>           | <u>154</u>    |
| <u>Community-Based Organization Activities</u>  |                 |                |                  |                |                  |                |                        |               |
| Development of materials and training for children  | 2,000 <u>9/</u> | -              | 3,000 <u>10/</u> | -              | 3,000 <u>10/</u> | -              | 8,000                  | -             |
| Development of materials and training for homeowners  | 600 <u>11/</u>  | -              | 900 <u>12/</u>   | -              | 900 <u>12/</u>   | -              | 2,400                  | -             |
| Development of materials and training for self-help builders in low-income neighborhoods  | 200 <u>13/</u>  | -              | 600 <u>14/</u>   | -              | 600 <u>14/</u>   | -              | 1,400                  | -             |
| Development of PMP technical guidelines and dissemination and training to credit unions/housing coops                                     | -               | 200 <u>15/</u> | -                | 400 <u>16/</u> | -                | 400 <u>16/</u> | -                      | 1,000         |
| Training (workshops, etc.) on PMP to informal sector neighborhoods and NGOs   | -               | 25 <u>17/</u>  | -                | 35 <u>18/</u>  | -                | 35 <u>18/</u>  | -                      | 95            |
| Technical Assistance in community organization and control of environmental degradation program activities                                | -               | 23 <u>19/</u>  | -                | 29 <u>20/</u>  | -                | 29 <u>20/</u>  | -                      | 81            |
| Development of NGO environmental networking support   | -               | 1              | -                | 1              | -                | 1              | -                      | 3             |
| Sub-Totals  | <u>2,800</u>    | <u>249</u>     | <u>4,500</u>     | <u>465</u>     | <u>4,500</u>     | <u>465</u>     | <u>11,800</u>          | <u>1,179</u>  |

| PROJECT COMPONENT   | YEAR ONE       |               | YEAR TWO         |               | YEAR THREE       |               | LIFE OF PROJECT TOTALS |               |
|---|----------------|---------------|------------------|---------------|------------------|---------------|------------------------|---------------|
|   | Individuals    | Target Groups | Individuals      | Target Groups | Individuals      | Target Groups | Individuals            | Target Groups |
| <u>Private Sector Activities</u>  |                |               |                  |               |                  |               |                        |               |
| Building professions' assistance for municipal regulations -i.e. codes, standards, ordinances   | -              | 2 <u>1/</u>   | -                | 6 <u>2/</u>   | -                | 6 <u>2/</u>   | -                      | 14            |
| Procedures and model contracts for relief and reconstruction services   | -              | 2 <u>21/</u>  | -                | 6 <u>21/</u>  | -                | 6 <u>21/</u>  | -                      | 14            |
| Research on disaster-resistant construction technology and building materials   | -              | 2 <u>21/</u>  | -                | 6 <u>21/</u>  | -                | 6 <u>21/</u>  | -                      | 14            |
| Training to the building professions for mitigation techniques  | 540 <u>22/</u> | -             | 1,620 <u>23/</u> | -             | 1,620 <u>23/</u> | -             | 3,780                  | -             |
| Policy dialogue with insurance industry to develop non-traditional community wide insurance programs for low-income housing, vital infrastructure and program development | -              | 2 <u>24/</u>  | -                | 6 <u>24/</u>  | -                | 6 <u>24/</u>  | -                      | 14            |
| Policy dialogue with financial industry to make post-disaster credit available to low-income families and program development support to local governments and NGOs       | -              | 2 <u>24/</u>  | -                | 6 <u>24/</u>  | -                | 6 <u>24/</u>  | -                      | 14            |
| Sub-Totals  | 540            | 10            | 1,620            | 30            | 1,620            | 30            | 3,780                  | 70            |
| GRAND PROJECT TOTALS  | 3,952          | 281           | 8,964            | 561           | 8,964            | 561           | 21,880                 | 1,403         |

- 1/ Cities.
- 2/ Cities -Ecuadorian, Bolivian, and Chilean.
- 3/ Two mayors, four elected council members, twelve municipal planning, community development/outreach staff for two cities for two training events.
- 4/ Six mayors, twenty-four elected council members, seventy-two municipal planning, community development/outreach staff for six cities, for two training events.
- 5/ 30 participants per training event, three events for each of three groups in two cities.
- 6/ Three groups three times a year in two cities.
- 7/ 30 participants per training event, three events for each of three groups in six cities.
- 8/ Three groups three times a year in six cities.

- 9/ Two low-income neighborhoods times 500 children in each neighborhood of two cities.
- 10/ Six low-income neighborhoods in six cities times 500 children in each neighborhood of each city.
- 11/ Two low-income neighborhoods times 50 homeowners in each neighborhood for three events per neighborhood a year in two cities.
- 12/ Six low-income neighborhoods times 50 homeowners in each neighborhood for three events per neighborhood a year in six cities.
- 13/ 100 self-help builders in two low-income neighborhoods in two cities.
- 14/ 100 self-help builders in six low-income neighborhoods in six cities.
- 15/ Active credit unions affiliated with a Federation and organized housing coops throughout the country.
- 16/ Active credit unions affiliated with federations in Ecuador, Bolivia, and Chile and organized housing coops in these same countries.
- 17/ Two informal-sector neighborhoods in two Ecuadorian cities, the Fundación Investigación Acción para el Desarrollo (FIAD), 20 Centro Médico de Orientación y Planificación Familiar (CEMOPLAF) clinics, El Comité Pro-Mejoras grassroots NGO, Natura Foundation, etc.
- 18/ Six informal sector neighborhoods in six cities, the same group of NGOs and a few others in Ecuador, and similar types of NGOs in Bolivia and Chile.
- 19/ The same mix of types of NGOs as listed under footnote 17.
- 20/ The same mix of types of NGOs under footnotes 17 and 18.
- 21/ Involvement in process of municipalities with building professions' groups such as architects, engineers, construction chambers, accounting firms in corresponding number of cities.
- 22/ Three events per year times 30 participants per event times three building professions' groups per city (construction chamber, architects/engineers, accountants) times two cities.
- 23/ Three events per year times 30 participants per event times three building professions' group per city (construction chambers, architects/engineers, accountants) times six cities.
- 24/ Link-up of insurance industry or financial sector representatives in a country with local/national government officials and NGO representatives in dialogue and program development support activities in corresponding number of cities.

able to reach agreement in a rational manner on where and how to interface disaster PMP activities into the bilateral assistance programs of each country.

Below is a table which summarizes the estimated number of direct beneficiaries (21,880 individuals and 1,403 target groups) to be served by the full range of project activities over its three year implementation period.

#### 4. Project Assessment

The design of the South America Disaster PMP Project included: (a) An Ecuador Country Assessment; (b) a Natural Disaster Assessment which concentrated upon a review of Ecuador's vulnerability for three types of natural disasters - earthquakes, volcanic eruptions, and flooding; and (c) an Institutional Assessment focusing upon the current and potential future roles and participation of local institutions - primarily the Ecuadorian Civil Defense - and nationally - based international institutions involved in developing natural disaster assistance programs in Ecuador.

The latter assessment reviewed the objectives and activities of institutions which might converge with those of the South America Disaster PMP Project. This assessment covered the Partners of the Americas, World Bank, Interamerican Development Bank (IDB), the United Nations Development Program (UNDP), and the Organizations of the American States.

To summarize, the three assessments by the Abt Associates consultant team to recommend a variety of activities which RHUDO/SA might consider as part of a Disaster PMP Project for South America (see Appendix 1. pages 3 to 15 for details) were completed in a series of visits to municipalities, communities, private sector organizations, and international agencies to collect information and opinions to assess:

- the possibility of implementing PMP programs in Ecuador;
- preparedness levels;
- mitigation opportunities;
- willingness to participate in PMP programs; and
- post disaster response and technical capabilities.

The South America Disaster PMP Project that RHUDO/SA has settled upon and which is being presented to OFDA for its approval and funding is described in the Project Description section below.

#### 5. Relationship to FHA/OFDA's Disaster PMP Strategy

Even though RHUDO/SA started the process to develop and design its South America Disaster PMP Project before FHA/OFDA issued its Draft Disaster Prevention, Mitigation, and Preparedness (PMP) Strategy for FY 1992 to 1996, the South America Disaster PMP Project conforms to the OFDA Disaster PMP Strategy in many ways such as:

- South America Disaster PMP Project activities are an exact fit with the OFDA Disaster PMP Strategy activities aimed at improving construction of low income homes with disaster resistant materials and building methods; mitigating losses through building codes, correct siting, land use, and insurance; and integrating prevention and mitigation concepts in A.I.D. funded housing and urban development projects.
- The South America Project's concentration upon mitigation and prevention activities during its project life meshes well with the OFDA PMP Strategy's emphasis to shift its PMP portfolio toward prevention and mitigation (from about 20% in FY 1992 to over 75% in FY 1996.)
- The focus of the South America Project's objectives to implement activities through local governments, community-based organizations, and the private sector with decidedly disaster mitigation and prevention emphases again meshes with the OFDA strategy's emphasis to decrease from over 50% to around 15% activities in disaster management of the relief nature. In fact, RHUDO/SA decidedly has not included in its project design the financing of disaster preparedness activities now quite adequately handled by other institutions such as the Partners of the Americas and the Civil Defense in Ecuador.
- Both the South America Project and OFDA's Disaster PMP Strategy are united in their conception that activities in prevention and mitigation require the collaboration of diverse development sectors including the private sector and the full integration of international and bilateral donor efforts to support those of host countries affected by disaster events.
- Clear understandings are maintained by RHUDO/SA and OFDA that disaster PMP activities must interface, fit, and complement on-going bilateral A.I.D. development assistance programs. That is, disaster PMP activities cannot go contrary to the strategic objectives frameworks underlying the development assistance programs agreed to by A.I.D. Missions with host country governments. (OFDA disaster PMP resources supporting RHUDO projects would be offered for feasibility study support, "buy-ins" to Mission programs, and stand-alone activities.)

#### **D. Project Description**

##### **1. Local Government Participation Component**

###### **a. Opportunities and Constraints for Increasing Local Government Participation in Disaster PMP Initiatives**

When natural disasters strike, municipal and other local governments are often where devastated neighborhood residents will turn to first for help. Unfortunately, most local governments face serious administrative problems hindering their ability to provide efficient

services to their constituency under normal circumstances. In the face of a natural disaster event, most are powerless to respond.

Deficient municipal finances due to inadequate tax collection systems and municipal revenue short falls to provide services to all residents, lack of accurate cadastral systems, and lack of adequate land controls have contributed to the increase in informal sector settlements ringing most major South American cities -i.e. Lima, Quito, Guayaquil, etc. Hence, settlements are established virtually without any controls and standards. Legal land ownership is a foreign concept to many residents of such new communities. Homes are constructed on high risk locations subject to flooding, sited on earthquake faults, built with materials, techniques, and designs not adequate to withstand the lowest grade seismic movements, completely devoid of basic water and sewage disposal services, and overcrowded on lots too small to provide adequate living space for large families. Such circumstances are often major contributors to the devastating effects of natural disasters.

Conditions such as those described under which many low-income families live present the challenges and opportunities that the South America Disaster PMP Project can address with a range of activities to mitigate and prevent the devastating impacts of natural disasters, whether it may be an earthquake, a flood, or a volcanic eruption. Implementation of activities such as some of those which the South America Project will finance should go far to remove constraints for increasing local government participation in disaster PMP initiatives.

#### **b. New Project-Supported Initiatives**

Among the initiatives which could be supported by this project component are:

- Incorporation of PMP activities in the master plans of local governments -i.e. natural hazard mapping, improvement of hazard resistance codes, preparation of vulnerability and risk studies, formulation of ordinances and regulations to dissuade developments in high risk zones, development of affordable minimal housing construction standards for the informal sector that provides disaster protection, development of land tenancy practices (supported by cadastral systems) for the informal sector that promote PMP practices, development of adequate taxation or disincentives for development in high risk zones, and development of retrofitting practices in high risk areas.
- Promotion of public/private partnerships to increase the adoption of mitigation measures within private sector projects - i.e. loans, guarantees, grants, or tax reductions for institutions and individuals that comply with disaster initiatives in high risk areas and incentives to use building hazard-resistant codes and locally manufactured building materials.
- Promotion of partnerships to increase the adoption of mitigation measures within informal sector projects - i.e. NGO and community leader collaboration to prepare hazard assessments in communities and documentary material about natural hazards.

- Promotion of partnerships with the media to publicize PMP program activities.
- Training on PMP related issues to elected officials and municipal staff and to increase the collaboration of different sectors in PMP programs launched by local governments - i.e. private construction sector, private financial sector, community-based organizations and community leaders, and the media.

### **c. Summary of Objectives and Expected Achievements**

Successful implementation of the local government component activities will facilitate their replication in disaster-prone countries in the region and worldwide, if these field tested strategies and activities are used. Their use will save lives and greatly reduce damage to housing and lifelines in low-income communities ravaged by natural disasters. Lastly, municipalities equipped with new tools to better serve their constituencies, especially in the face of natural disasters, will win for their elected leaders new credibility and support to govern.

## **2. Community-Based Organizations Participation Component**

### **a. Opportunities and Constraints for Increasing Community- Based Organizations Participation in Disaster PMP Initiatives**

According to the research and field work completed by the Abt Associates consultant team to support the development and design of the South America Disaster PMP Project, community-based organizations represent the best hope to implement PMP activities among many low-income segments of the Ecuadorian population. This is because cultural patterns have traditionally constrained the assimilation of large segments of the Ecuadorian Indian population, for example, into the productive, mainstream society. Remoteness, difficult topography, lack of basic services, and limited acceptability by the economically dominant population are part of a social framework inhibiting the delivery of effective public services to other segments of the low-income population.

Because community-based organizations with grassroots orientations anchored in low-income communities, NGOs such as credit unions and housing cooperatives, family planning clinics oriented to serve the marginated Indian population, and similar organizations have already won the trust and support of low-income and otherwise disenfranchised groups through their previous support of strong community concerns, efforts to include such target groups in PMP activities will be enhanced by channeling them through such community-based organizations. It will be easier for a known and trusted organization to sell something new to groups who traditionally harbor suspicions and distrust of ideas originating from the not always trustworthy mainstream society.

### **b. New Project-Supported Initiatives**

Among the initiatives which could be supported by this project component are:

- PMP training activities in low-income neighborhoods such as promoting appropriate design concepts, materials, construction techniques, codes and standards in the traditional building process, and the delivery of disaster resistant houses at economical costs.
- Introduction of mitigation measures as a normal element in the planning of low-income housing.
- Provision of technical support to credit union and housing cooperative members to build earthquake resistant homes.
- Promotion and use of traditional materials and construction systems found in a locality to strengthen or upgrade vulnerable components of low-income shelter.
- Promotion of credit programs for strengthening existing homes and businesses in high risk zones.
- Introduction of environmentally sound programs to help minimize the effects of natural disasters.
- Promotion of PMP activities which directly respond to the needs of beneficiary communities and yield short-term benefits to improving the quality of life of the community and its members - i.e. working on the erosion problems of an Indian community located on the slopes of a volcano.
- Educational programs for children and homeowners in low-income neighborhoods to increase hazard awareness.
- Development of PMP programs to increase the understanding of the impacts of environmental degradation and natural disasters upon the economic and sustainable development of low-income communities.
- Support for the LACUM environmental network to promote information exchange between natural resource preservation and disaster programs within organizations operating at the community level.

### **C. Summary of Objectives and Expected Achievements**

Successful implementation of community-based organization activities will save lives and greatly reduce damage to housing and lifelines serving marginated segments of the low-income population such Indians and other disenfranchised groups which have not been assimilated into mainstream society. Community-based organizations equipped to serve their target clientele in another area, such as disaster PMP, will broaden the range of services which they will be able to offer.

### 3. Private Sector Participation Component

#### a. Opportunities and Constraints for Increasing Private Sector Participation in Disaster PMP Initiatives

In spite of the diverse range of resources that the private sector could bring to disaster PMP programs, they have traditionally not been involved. The activities to be implemented by the South America Disaster PMP Project will all be oriented to removing constraints which have impeded private sector participation in disaster PMP.

#### b. New Project-Supported Initiatives

Among the activities which could be supported by this project component are:

- Promotion of building profession participation in the preparation of municipal regulations to mitigate the effects of natural disaster - i.e. sound land use planning and building standards related to the prohibition of construction in designated flood prone areas, the limitation of construction densities in high risk areas, etc.
- Applied research by the building professions in areas such as construction technology for low-income housing to enable such units to better withstand disasters.
- Systems to expedite the procurement and contracting of private sector services in the event of natural disasters.
- Training that raises consciousness and conveys technical information both by and to building professionals in fields such as how to build with disaster recoverable building materials and construction techniques.
- Promotion of policy dialogue and program development efforts with the insurance industry to develop community-wide insurance and other innovative means to protect the housing investments of low- and middle income families in high risk areas and to protect the providers of vital infrastructure against losses caused by natural disasters.
- Promotion of policy dialogue and program development efforts with private sector financial institutions to provide housing finance to low-income communities after a disaster. This latter initiative could combine efforts of local government and community-based groups to work with local financial institutions to serve as intermediaries between banks and low-income communities in a variety of ways. These may include:
  - Assistance with the administrative burden in both application and collection;
  - Assistance in educating potential borrowers on the terms of the lending; and

- Assistance in setting up programs such as a save now/borrow later scheme, etc.

### **C. Summary of Objectives and Expected Achievements**

Successful implementation of private sector component activities will save lives and help low- and middle income families and communities to recover more quickly from the financial losses caused by natural disasters to housing and vital infrastructure and motivate families to not build on high risk areas. Also, being able to count upon building professions' expertise to generate municipal regulations and expedited procurement and contracting systems will greatly enhance disaster PMP efforts.

Introduction of private sector participation in disaster PMP will also broaden the number of options available to disaster victims to re-build their lives as soon as possible. Building with disaster recoverable building materials and construction techniques taught by a building professions' member to self-help home builders in a low-income community might spell the difference between a house withstanding a low level seismic movement or not.

### **4. Activities Transition Process - Short to Medium to Long Term**

The South America Disaster PMP Project has been designed to be implemented in three phases - short, medium, and long term activities. Transition of project implementation between phases will be based upon the success of activities being carried out during each phase of the project and a determination to replicate or not an activity at a different project site in the same country or sites in a different country in the region.

The mid-term evaluation scheduled for the eighteenth month of the project will be carefully relied upon to determine whether field tested activities should continue to be implemented or discarded in the third and long term phase of the project. Whether activities should be implemented at other sites or in other countries will be dictated by the findings and conclusions of the mid-term evaluation and the joint judgement of the institutional contract project manager, the RHUDO/SA Director, and the A.I.D. Mission Director, or his designate, responsible for oversight of disaster PMP activities in the country.

Activities remaining to be implemented in the third and long term phase of the project will hopefully be institutionalized to form part of the package of disaster PMP interventions which RHUDO/SA may offer to A.I.D. Missions committed to providing disaster assistance to their countries.

As it has been designed, Ecuadorian pilot activities to be implemented through any of the project components -i.e. local government, community-based organizations, or the private sector- for mitigating or preventing the impacts of a certain type of natural disaster should be completely transferable for use at any site in the same country or another country.

That is, for example, engaging the insurance industry in policy dialogue and securing its

program development support to provide community wide insurance for vital infrastructure and the low-income housing of a community could be initiated in Ecuador, Bolivia, or Chile. The way that one proceeds to start the dialogue by getting local government and NGO representatives to take the lead and how to seek program development support from the insurance industry would be similar in all three countries. The types of community wide insurance plans which the industry agrees to offer would depend upon the effectiveness of the parties engaged in the dialogue and certain overriding conditions which would control the results of the dialogue -i.e. the legal framework within which the insurance industry must operate, the price structure prevailing in a country's economy which dictates the cost of certain types of services to be charged the consumer, etc.

## II. COST ESTIMATE AND FINANCIAL PLAN

### A. Project Resources Allocation Plan

Over the three year implementation period, OFDA will fund the South America Disaster PMP Project by \$2.5-million. In accordance with OFDA policy, no counterpart contributions are included in the life of project funding. Project funding will be allocated to RHUDO/SA by OFDA on a yearly basis for it to manage and use to carry out the full range of activities described above under each of the three project components.

### B. Resource Allocations Among Project Components

As it was indicated above, the South America Disaster PMP Project has three components:

- Local government activities;
- Community - based organization activities; and
- Private sector activities.

Table 2 below presents an illustrative budget showing how funding might be used to carry out possible activities under each project component. Once project implementation begins, it is understood that estimated funding levels presented in this illustrative budget might have to be reprogrammed and adjusted between project components to accommodate more adequately the funding requirements of the different listed activities, and even to provide funding for other activities critical to the successful implementation of the project which were not envisioned during the project design phase.

Table 2. Allocation of Project Resources

|  | (Thousands of Dollars) |                     |                       | <u>Total</u> |
|--|------------------------|---------------------|-----------------------|--------------|
|  | <u>Year<br/>One</u>    | <u>Year<br/>Two</u> | <u>Year<br/>Three</u> |              |
| Local Government Activities                | 130                    | 220                 | 220                   | 570          |
| Community-Based Organization<br>Activities | 120                    | 220                 | 220                   | 560          |
| Private Sector Activities                  | 100                    | 215                 | 215                   | 530          |
| Institutional Contract<br>Project Manager  | 220                    | 150                 | 160                   | 530          |
| Mid-term and Final Evaluation              | 0                      | 50                  | 50                    | 100          |
| Impact Information System                  | 30                     | 45                  | 45                    | 120          |
| LACUM Support <u>1/</u>                    | 30                     | 30                  | 30                    | 90           |
| <hr/>                                      |                        |                     |                       |              |
| Total                                      | 630                    | 930                 | 940                   | 2,500        |
| <hr/>                                      |                        |                     |                       |              |

1/ Once the project funding is approved and allocated to RHUDO/SA, the major portion of it will be obligated under a buy-in of services from an institutional contractor, most likely the International City Management Association, who maintains a valid contract executed in 1989 with the AID Office of Housing and Urban Programs (HUP Office) for a Municipal Development and Management Project. Only funding designated for LACUM staff support and travel will be retained by RHUDO/SA and reserved for project activities directly managed by LACUM. These funds will be obligated by AID direct procurement actions with LACUM.

What follows is a breakdown of the mix of activities to be implemented and funded under each of the three project components:

Table 2.A. Local Government Activities  
(Thousands of Dollars)

| <u>Activities</u>   | <u>Year</u><br><u>One</u> | <u>Year</u><br><u>Two</u> | <u>Year</u><br><u>Three</u> | <u>Total</u> |
|---|---------------------------|---------------------------|-----------------------------|--------------|
| Technical assistance for city master plans  | 20                        | 50                        | 50                          | 120          |
| Natural Hazard information, vulnerability and insurance rate mapping support - OAS  | 20                        | 50                        | 50                          | 120          |
| Training for elected officials and municipal staff  | 50                        | 70                        | 70                          | 190          |
| Training to private sector groups, community groups, and media groups to promote private sector/community participation in PMP activities | 40                        | 50                        | 50                          | 140          |
|   | ---                       | ---                       | ---                         | ---          |
| TOTAL   | 130                       | 220                       | 220                         | 570          |

Table 2B. Community Based Organization Activities  
(Thousands of Dollars)

| <u>Activities</u>  | <u>Year<br/>One</u> | <u>Year<br/>Two</u> | <u>Year<br/>Three</u> | <u>Total</u> |
|--|---------------------|---------------------|-----------------------|--------------|
| Development of materials and training for children   | 10                  | 30                  | 30                    | 70           |
| Development of materials and training for homeowners   | 20                  | 35                  | 35                    | 90           |
| Development of materials and training for self-help builders in low-income neighborhoods                   | 20                  | 35                  | 35                    | 90           |
| Development of PMP technical guidelines and dissemination and training to credit unions/ housing coops     | 10                  | 30                  | 30                    | 70           |
| Training (workshops, etc.) on PMP to informal sector neighborhoods and NGOs                                | 30                  | 40                  | 40                    | 110          |
| Technical assistance in community organization and control of environmental degradation program activities | 20                  | 30                  | 30                    | 80           |
| Development of NGO environmental networking support  | 10                  | 20                  | 20                    | 50           |
|  | ---                 | ---                 | ---                   | ---          |
| TOTAL  | 120                 | 220                 | 220                   | 560          |

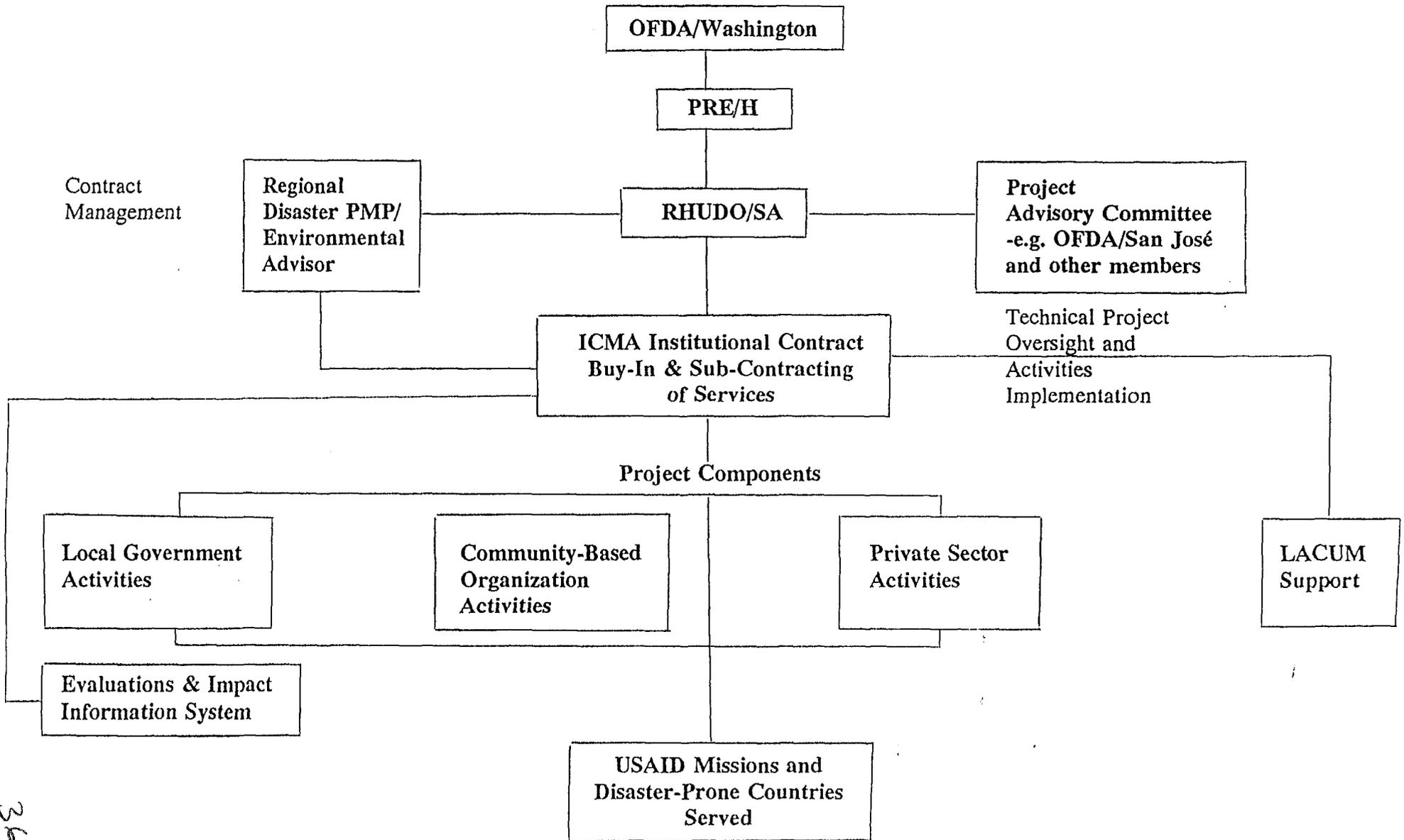
Table 2C. Private Sector Activities  
(Thousands of Dollars)

| <u>Activities</u>  | <u>Year<br/>One</u> | <u>Year<br/>Two</u> | <u>Year<br/>Three</u> | <u>Total</u> |
|--|---------------------|---------------------|-----------------------|--------------|
| Building professions' assistance for municipal regulations -i.e. codes, standards, ordinances  | 15                  | 25                  | 25                    | 65           |
| Procedures and model contracts for relief and reconstruction services  | 20                  | 30                  | 30                    | 80           |
| Research on disaster-resistant construction technology and building materials  | 15                  | 25                  | 25                    | 65           |
| Training to the building professions for mitigation techniques   | 20                  | 35                  | 35                    | 90           |
| Policy dialogue with insurance industry to develop non-traditional community-wide insurance programs for low-income housing, and vital infrastructure, and for program development | 15                  | 50                  | 50                    | 115          |
| Policy dialogue with financial industry to make post-disaster credit available to low-income families and program development support to local governments and NGOs                | 15                  | 50                  | 50                    | 115          |
| TOTAL  | 100                 | 215                 | 215                   | 530          |

Figure No. 1

### SOUTH AMERICA DISASTER PMP PROJECT

#### Administrative Structure



### III. IMPLEMENTATION PLAN

#### A. Basic Structure

The South America Disaster PMP Project will be implemented by a structure that integrates and applies OFDA resources along with those facilitated by RHUDO and its Latin American Center for Urban Management (LACUM), and those provided by other international, regional, national, and local institutions involved in different disaster assistance initiatives in Ecuador or another country in the region served by the project. The project's goals and objectives will be achieved by activities channeled through the project's three principal implementation actors -local governments, the private sector, and community-based organizations. The experience and lessons learned will be continuously shared with neighboring communities, cities, and other countries.

Moreover, the replicability of activities will be assessed during reviews of the project's progress by the RHUDO/SA headed Project Advisory Committee on a quarterly basis and formalized by a mid-term evaluation scheduled for the eighteenth month and a final evaluation at the end of the project's three-year implementation period.

RHUDO/SA's implementation of the project's basic elements may be described as follows:

- After OFDA approves funding for the South America Disaster PMP Project, it will provide first year project funding to RHUDO/SA by a cabled fund cite for a specific amount. With this funding in hand, RHUDO will seek AID/W contracts office assistance in negotiating a contract buy-in with U.S. non-profit institution -most likely the International City Management Association based in Washington, D.C.- which has a contract executed in 1989 with AID's Office of Housing and Urban Programs to help RHUDO/SA implement the full range of technical assistance and training activities to be provided by the PMP Project in this region.
- Only a small portion of the funds allocated to RHUDO/SA for this project will be retained by RHUDO to be used for the LACUM supported project activities. This funding for LACUM travel and related PMP project support will be allocated for LACUM's use by AID direct procurement procedures. Its use will be properly monitored by RHUDO/SA's Management Assistant.
- With the formal execution of the service buy-in with ICMA, an institutional contract project manager will be provided. He/she will have the primary responsibility for management of the project by assuring that there is proper coordination among all project actors, and provide technical direction and oversight on all project activities over its three-year life.
- Short term training and technical assistance support identified above to be implemented through each of the three project components will be subcontracted by ICMA from international and local institutions qualified to provide the expertise required in each of

the specialized areas:

- local government;
  - community development, and;
  - the private sector.
- The project as described above will also provide some OFDA funding to LACUM for use in identifying from its institutional network qualified regional expertise to complement what the ICMA cannot provide for the three specialized areas cited above or to respond to other types of PMP initiatives such as disaster mitigation and prevention relationships with environmental degradation management activities.
  - At the national level, ICMA may sub-contract such expertise as the following to implement some PMP project activities:
    - NGOs;
    - professional and trade associations; and
    - national PMP technical advisors.
  - The project will coordinate and collaborate with other international donors and national agencies with specific disaster PMP activities or development programs with disaster components. RHUDO/SA proposes to establish a Disaster PMP Project Advisory Committee which it will head to solicit inputs from fellow donors and others who are implementing disaster assistance activities in Ecuador or other countries. This Advisory Committee would operate to ensure that the activities of each donor not duplicate or conflict with those of another operating in the same field. The hope is that the efforts of one donor would complement those of others.

Initial thoughts on forming the Advisory Committee would be to include among its members such groups as: (a) the Partners of the Americas; (b) Children's Television Workshop; (c) UNDR0; (d) OFDA/San José; (e) Fundación Natura; (f) the Asociación Municipal Ecuatoriana; (g) OAS; (h) the Cámara de Construcción; (i) LACUM; and (j) other NGOs, municipalities, or private sector groups such as the bankers' association or insurance industry trade association that the implementation of a PMP activity would involve.

### **B. International, Regional, and Local Resources**

Implementation of the South America Disaster PMP Project is expected to also count upon the support and RHUDO's coordination with such key resources as the following:

- OFDA/Washington;
- USAID's Office of Housing and Urban Programs (PRE/H);
- OFDA/San José;
- USAID Missions in the region committed to providing disaster PMP assistance; and
- National Counterparts

CHART 1**METHODS OF IMPLEMENTATION AND FINANCE**  
(Millions of US Dollars)

| <u>Method of Implementation</u>  | <u>Method of Financing</u> | <u>Approx. Amount</u> |
|--|----------------------------|-----------------------|
| Buy-in of services from ICMA Institutional Contract executed with AID's Office of Housing and Urban Programs for Municipal Development and Management Project for project manager, TA, training, and policy dialogue support for all three project components, impact information system, and evaluations. | Letter of Credit           | \$2.41 - million      |
| LACUM Support  | AID Direct Procurement     | \$0.09 - million      |
|  | -----                      |                       |
| TOTAL  |                            | \$2.50 - million      |

### C. Implementation of Training Activities Process

As it has been described above, all three components of the South America Disaster PMP Project includes training activities as interventions to enable the project to achieve its goal and objectives. How RHUDO/SA visualizes the process for carrying out training activities may be described as follows:

- The first task of the institutional contract project manager, responsible for providing technical direction and oversight of all project activities, will be to develop a Work Plan to cover all Year One activities by project components identified in the South America Disaster PMP Project document. The work plan will include a schedule of when each type of activity -i.e. training, TA, policy dialogue, etc.- should occur during the year.
- The contract project manager will present the work plan for the review and approval of the RHUDO/SA Director, the PMP Project Advisory Committee, and the USAID Mission country where the PMP activities are to be implemented during the year.
- With the work plan approved, the project manager will identify the potential beneficiaries for each type of PMP activity intervention listed on the plan to be implemented in Year One -i.e. elected officials and municipal staff, low income neighborhoods to be provided community-wide insurance for homes, building professions' members to be trained in disaster-resistant construction technology, etc. Also, the project manager will identify potential international or local institutions -i.e. Ecuadorian Construction Chamber, insurance industry trade association, consultant firms, etc.- who would be qualified to provide the required training, technical assistance, or policy dialogue support.
- Based upon the project budget available for the type of activity intervention, the project manager would prepare a terms of reference describing the training, T.A. or, policy dialogue support services required to be provided. These terms of reference would include: (1) methodologies to be employed in providing the training; (2) description of the target groups to be trained or advised; (3) training or T.A. objectives to be achieved by the activity; (4) activity start and completion dates; (5) materials required to be prepared to implement the activity and delivered to USAID and the activity beneficiaries; (6) types and qualifications of service providers required, etc.
- The project manager with a completed terms of reference and budget would turn these documents over to the RHUDO/SA Regional Disaster/Environmental Initiatives Advisor 3/ to procure the services required from ICMA who has the capability under its contract with PRE/H to subcontract such required services.

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3/ This is a position to be funded by OFDA apart from the RHUDO/SA Disaster PMP Project.

- Once the required training or TA services are in place in Ecuador or whatever country that the training or TA is to be provided, the consultant/service provider would meet with the institutional contract project manager and RHUDO/SA Director, or his designate, for a review of the PMP Project's goal and project component objectives to ensure that there is a clear understanding of where and how the training/TA activity fits in the full context of the whole PMP project.
- Provided with the above orientation, the consultant/service provider, in the case of a training activity, would proceed to conduct a training activity assessment, design the training program to be offered, conduct the training, and prepare a report evaluating its results.
- To complete the full circle of the training activities process, it would be the responsibility of the institutional contract project manager to provide adequate oversight of all PMP Project training and TA activities as they are being carried out in the region. Also, it would be this manager's responsibility to gather and evaluate the results of each training/TA intervention in the context of how it impacted upon the achievement of the project's goal and project component objectives. Decisions to repeat the use of consultants/service providers and to replicate a training/TA activity or not will be made at this juncture. On the basis of similar premises and inputs to those cited above, the project manager would prepare work plans to cover the project's full range of training, TA, and policy dialogue support scheduled for implementation in Years Two and Three.

#### **D. Training, Technical Assistance and Policy Dialogue Integration**

To successfully implement the Disaster PMP Project, RHUDO/SA has designed it so that the project objectives can be achieved only through a a mix of training, TA, and policy dialogue support activities. It will be the responsibility of the institutional contract project manager, based upon the approved annual Work Plan, and a process of consultation with the RHUDO/SA Director, the AID Mission countries where activities are to be implemented, and the PMP Project Advisory Committee to determine the type mix of PMP activities to be implemented each year in any country in the region.

RHUDO/SA agrees with PRE/H and OFDA/PMP that to achieve the objectives of the community-based organization participation component of the project we must: (a) integrate PMP concerns into community based organization activity programs; (b) fund community based rganizations as the appropriate intermediaries to implement PMP activities at the community level; and (c) develop an NGO environmental network within LACUM. How the South America Project proposes to do all of this is discussed above. What has not been thoroughly addressed cannot be done at this point because that is what the institutional contract project manager will be charged to do as part of his/her responsibilities to manage and provide oversight for the project's implementation.

Regarding the character of the institution which LACUM would take advantage and perhaps use to expand the outreach of the Regional Network, RHUDO/SA does not currently envision LACUM's dependence upon any specific institution per se to help with the expansion of the Network. Rather LACUM now manages a process whereby through its series of regular network meetings held throughout the region, its published quarterly newsletter, and other means of communication, new institutions learn about the Regional Network and seek to join it every year. Informal sector institutions such as a Construyamos, which represents thousands of self-help builders in Colombia, are already Network members. As LACUM's upcoming network meetings focus their program agendas on such themes and issues of growing international and regional concern as disaster mitigation and prevention and environmental degradation management, RHUDO has no doubt that institutions on the forefront of these matters will be invited to participate to share their agendas and messages and to join the Regional Network, if they choose.

## IV. MONITORING AND EVALUATION PLAN

### A. Project Monitoring Arrangements

Overall responsibility for monitoring the implementation of the South America Disaster PMP Project will fall in the hands of the institutional contract project manager <sup>4/</sup>. Progress will be monitored against project component objectives and the PMP project activities mix set out in the annual work plan agreed to by the project manager with the RHUDO/SA Director and AID Missions where activities are to be carried out. The RHUDO/SA Director, or his designate, will maintain ultimate responsibility for monitoring the performance of the institutional contract project manager in implementing the project.

Activities will be monitored based upon their achievement of training, TA, and/or policy dialogue support objectives worked out by the project manager at the outset of an event identified in the terms of reference prepared to procure the services required. Moreover, during the course of implementing each PMP activity, it is expected that the institutional contract project manager, RHUDO/SA staff, and/or AID Mission staff will make site visits to seek first hand impressions from project beneficiaries about how PMP activities were meeting intended project purpose(s). Site visit findings will be documented in written trip reports distributed to RHUDO/SA, the AID Missions, etc.

Lastly, project progress will be monitored at a second level when the Disaster PMP Project Advisory Committee is convened on a quarterly basis and when the institutional contract project manager presents his/her next year's work plan for review and approval.

### B. Evaluation Plan

During the three-year life of this project, there will be two evaluations, one at the mid-point of the project implementation period -its eighteenth month- and a final evaluation at the end of the third year of operations. Both evaluations will be conducted by outside consultants.

As part of his/her first year work plan, the institutional contract project manager will develop evaluation criteria and progress indicators for each PMP activity proposed to be implemented during year One and less precisely for the life of the project.

When each evaluation is conducted, those charged to carry it out will assess project activities against the evaluation criteria and progress indicators which have been formulated. In addition, each evaluation will look for changes in disaster PMP policies and programs experienced by institutions such as municipalities, financial institutions, and the insurance industry impacted by

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<sup>4/</sup> Before the person selected to fill this position is provided by the institutional contractor, this responsibility will be handled by the RHUDO direct hire officer currently managing the Disaster PMP Project or the FSN Regional Disaster/Environmental Program Advisor, once this vacant RHUDO/SA staff position can be filled.

the project's activities. Also, community-based organizations charged with implementing some PMP activities will be assessed for their effectiveness in carrying out specific activities.

Because much effort has been invested in the process of designing the RHUDO/SA Project to identify its potential direct beneficiaries -individuals and target groups-, each evaluation will attempt to measure the impacts of each implemented PMP activity -i.e. training event, TA or policy dialogue support intervention- upon direct beneficiaries.

Final PMP Project outcomes to be measured could include the following:

- Local Government Activities Component
- Numbers of cities which have fully implemented the recommendations and results of TA related to city master planning, natural hazard vulnerability mapping, etc.
- Number of houses built or retrofitted to withstand earthquakes.
- Numbers of elected officials and municipal staff trained in disaster PMP strategies and those who have used their training to launch formal disaster PMP programs and voted to adopt policy and procedural changes.
- Numbers of private sector groups, community groups, and media groups trained in disaster PMP activities and those who have used their training to replicate disaster PMP programs.
- Community-Based Organization Activities Component
- Sets of materials developed and numbers of homeowners, self-help builders in low-income neighborhoods, credit unions/housing coops, etc. trained in disaster PMP strategies, etc. and those who have actually used their training.
- Numbers of cities/communities which have been provided technical assistance in environmental degradation management programs which have actually implemented such programs.
- Numbers of institutions concerned with disaster PMP and environmental issues added to the LACUM regional network, number of network meetings actually dealing with disaster PMP and environmental concerns, and degree of heightened interest in disaster PMP and environmental issues reflected in activities of network members.
- Private Sector Activities Component
- Numbers of building professions' TA interventions with municipalities to update regulations, codes, standards, and ordinances to take into account disaster PMP considerations.

- Numbers of sets of procedures and model contracts for relief and reconstruction services developed through the disaster PMP project's TA support.
- Number of additional shelters (new or old) built (or improved) with improved disaster-resistant materials, designs, and practices and training programs promoting their use.
- Number of builders, carpenters, masons, etc. using disaster-resistant materials and building technologies.
- Market-like incentives used to encourage the adoption of safer building practices.
- Number of new sources of locally produced materials used for disaster mitigation.
- Number of new insurance programs for low-income housing and lifelines and number of individuals and facilities insured.
- Number of new low-income families provided credit for retrofitting houses and post-disaster reconstruction.

Finally, the project evaluations will assess the suitability of all field tested disaster PMP activities to be replicated at other sites in the same country or be used in other countries in the region or elsewhere. One measure of this will be to determine whether host countries and USAIDs take new measures after disaster PMP project interventions have been implemented to actually improve planning for disaster PMP relative to a country's housing stock and lifelines.

### C. Audits

With the exception of a \$90,000 set aside for RHUDO/SA direct procurement, this project will be implemented through a contract buy-in with a U.S. non-profit organization, most likely the International City Management Association. USAID audit standards for U.S. based non-profit organizations require compliance with the Office of Management and Budget Circular A-133, which provides for an organization-wide audit and not a grant-by-grant review. Responsibility for ensuring audit compliance rests with a cognizant U.S. based federal agency, while the AID Inspector General's Office in Washington (RIG/A/W) serves as liaison for AID funded activities.

The A-133 Circular requires not less than bi-annual U.S. based audits, which provide an opinion regarding a given institution's compliance with laws and regulations, a statement of positive assurance on items tested and negative assurance on programs that were not tested, a presentation of material findings, the relationship of the findings to particular awards as appropriate, and the auditor's recommendations for corrective action. Sample testing of various U.S. Government grants and contracts is used to establish the institution's ability to adequately manage and account for federal monies, in compliance with generally accepted accounting standards and generally accepted government accounting standards. This type of audit precludes

the necessity of performing single audits of individual federal awards such as the buy-in contemplated under this project.

Since negotiated overhead rates include funding for A-133 audits, RHUDO/SA is not required to budget for audit as a separate line item for the \$2.41 million buy-in. However, any local contracts or grants in excess of \$25,000 funded from the \$90,000 set aside for direct procurement, would, in fact, require annual financial and compliance audits at the discretion of the Regional Inspector General's Office in Tegucigalpa. Although audits are not specifically budgeted herein for this purpose, any contract or grant negotiated from the \$90,000 set aside will include sufficient funding for appropriate recipient contracted audits.

RHUDO/SA will officially advise RIG/A/W when the buy-in contract with a U.S. non-profit organization is formalized. Once RIG/A/W has been advised of the award, that office is responsible for ensuring compliance with OMB Circular A-133 audit provisions. RHUDO/SA will coordinate appropriate audit coverage for any local contracts or grants with RIG/A/T.

Appendix 1

**INTRODUCING A  
DISASTER PREPAREDNESS  
AND MITIGATION  
PROJECT IN  
SOUTH AMERICA:**

**A RHUDO/SA INITIATIVE**

**Milagros Nanita-Kennett  
John Miller  
Gustavo Wilches  
Piedad Pilar Varona**

**January 1992**

**Abt Associates Inc.  
4800 Montgomery Lane  
Bethesda, Maryland 20814**

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## PREFACE

This project was designed by Abt Associates Inc. for the USAID Office of Housing and Urban Programs and its Regional Office of Housing and Urban Development for South America (RHUDO/SA), based in Quito, Ecuador. The project is based on field work in Ecuador in September 1991.

William Yaeger, RHUDO/SA Director and Sonny Low, RHUDO/SA Deputy Director provided overall direction and substantive guidance. The entire RHUDO/SA staff was extremely cooperative and provided excellent support, especially Alfonso Palacios, the Executive Director of the Latin America Center for Urban Management, and Dino Siervo, responsible for various initiatives including the Environmental Program of RHUDO/SA.

Jimena Villasis (Ecuadorean private consultant) provided important insights on community groups and Sally Merrill (Abt Associates Inc.) provided valuable assistance on finance issues.

We are especially appreciative of the cooperation provided by various public and private sector institutions in Ecuador.

Milagros Nanita-Kennett  
John Miller  
Gustavo Wilches  
Piedad Pilar Varona

## ACRONYMS

|           |  |
|-----------|--|
| AME       | Asociación de Municipalidades del Ecuador                      |
| BEDE      | Banco Ecuatoriano de Desarrollo Económico                      |
| BEV       | Banco Ecuatoriano de la Vivienda                               |
| CEMOPLAF  | Centro Médico de Orientación y Planificación Familiar          |
| CIDAP     | Centro Interamericano de Artesanías y Artes Populares          |
| CINTERFOR | Information Network based in Uruguay                           |
| DPM       | Disaster Preparedness and Mitigation                           |
| FECOAC    | Federación de Cooperativas de Ahorro y Crédito                 |
| FEMA      | Federal Emergency Management Agency                            |
| FIAD      | Fundación Investigación Acción para el Desarrollo              |
| FUNHABIT  | Fundación para el Habitat                                      |
| GOE       | Government of Ecuador  |
| GTZ       | German Aid Agency  |
| IDB       | Interamerican Development Bank                                 |
| INFODEM   | Instituto de Fomento y Desarrollo Municipal                    |
| LAC       | Latin America and Caribbean Bureau                             |
| LACUM     | Latin America Center for Urban Management                      |
| NGO       | Non-governmental organization                                  |
| OAS       | Organization of the American States                            |
| OFDA      | Office of Foreign Disaster Assistance                          |
| RHUDO/SA  | Regional Housing and Urban Development Office of South America |
| SECAP     | Servicio Ecuatoriano de Capacitación y Aprendizaje Popular     |
| SENA      | Servicio Nacional de Aprendizaje                               |
| UNDP      | United Nations Development Programme                           |
| UNDRO     | United Nations Disaster Relief Office                          |
| UNICEF    | United Nations Children's Education Fund                       |

## EXECUTIVE SUMMARY

RHUDO/SA intends to expand its capacity to assist disaster preparedness and mitigation (DPM) activities in South America. The goal of this new program is to reduce the impact - the loss of lives, damage to housing, and lifelines -- and disruption to development of natural disasters in low-income communities.

This program has been designed to address earthquakes, volcanoes, and floods since these natural hazards have the potential to cause devastating damage and disruption to development growth throughout South America.

It is expected that the early stages of this program will be carried out in Ecuador as a pilot effort, although it is anticipated that RHUDO/SA will expand its initiative throughout the region in the future to achieve a comprehensive impact on disaster protection.

The core of this project encompasses three basic objectives directed at enhancing the participation and capabilities in disaster preparedness and mitigation of a) local governments; b) community-based organizations; and c) the private sector.

The participation of these actors in disaster preparedness and mitigation is essential: disaster management activities by necessity cannot count on substantial financial participation by national governments, but rather must seek the involvement of other sectors. However, the participation of these sectors involves particular constraints. For example, when a disaster strikes, municipalities, which are the first line of institutions from which communities request assistance, are ill-prepared to respond to natural disasters -- due primarily to the lack of planning, and economic and human resources. Community-based organizations are not well integrated into existing disaster programs and lack the necessary knowledge to respond to catastrophic events. And, the private sector has typically not played a significant role in disaster planning and mitigation activities.

A range of strategies and recommendations has been designed to increase the participation of these sectors. These strategies and recommendations are designed to be placed within the normal development process of the recipient institutions and selected communities and to be amenable to a solution which can be sustained once the project has formally ended. This project has been designed so that a number of nationally based institutions in Ecuador, such as Partners of the Americas, IDB, UNDP, World Bank, and the OAS, might provide collaboration in areas of interest, thus increasing the leverage of RHUDO/SA initiatives in Ecuador.

Strategies and recommendations include the following:

## Increasing Local Government Participation

Municipal governments are key institutions within a country's system of government. Municipalities provide the necessary means for the collective well-being; contribute to the protection of local interests; plan and promote community development; and deliver basic services. It is within this context that municipalities are the most appropriate government institution to carry out preparedness and mitigation activities.

Unfortunately, municipal governments typically are solely equipped to carry out functions under normal circumstances and do not have the resources to respond to the massive demands of the community when a disaster strikes.

Moreover, as major cities experience rapid urban growth, the opportunities for municipalities to play an effective role in disaster mitigation become more difficult. Local governments find it difficult enough to plan and provide a satisfactory environment to absorb the growing levels of an urban population, much less plan for future events such as disasters.

The strategies and recommendations related to local governments are oriented to increase the intervention of municipalities in pre- and post-disaster activities. They are designed to be implemented equally in the municipalities of Quito, Ambato, Riobamba, and Latacunga. The underlying assumption of increasing local government participation is that if municipal governments a) include within their normal planning process actions to be taken before and after a disaster; b) promote the involvement of other economic sectors; and c) undertake training activities directed to staff and the community, they will be better able to effectively respond to natural hazards.

Several municipal governments are taking definitive steps to update, expand, or prepare their master plans. This activity is supported by several international institutions. RHUDO/SA should provide assistance to selected municipalities so that DPM activities are adopted within masters plans as part of the normal development process of municipalities.

In the last decade, there is a growing tendency to develop public/private partnerships to expand the local resource base in support of development programs. Local governments are increasingly entering into agreements with the private and informal sectors to address community needs. RHUDO/SA should promote collaboration and communication between municipalities and various leading community sectors to promote DPM activities. Public/private partnerships might include private and informal sector and partnerships with the media.

There is a growing consensus that local government staff need more systematic training in supervisory, managerial and other technical skills related to DPM activities. This type of activity is supported in many countries by bilateral and multilateral donors. Training that has an impact on DPM activities includes policy and awareness, traditional municipal

management and administration, and resource mobilization, as well as specialized disaster-related skills. Training should focus on mayors, technical staff, council persons, political leaders, and community outreach.

### Increasing Community-Based Organization Participation

A recent study shows that 57 percent of Ecuador's population is considered poor and that 27 percent is living below the poverty line. These facts are unlikely to be reversed in the near future. Cultural patterns have traditionally constrained the assimilation of large segments of the Ecuadorean Indian population into a productive modern society. In addition, Ecuador has experienced the strong effects of the recent international economic crisis which has set back the economic growth of most of the developing world.

Low-income communities are experiencing a substantial deterioration in their quality of life and at the same time, population is increasing. Both population growth and poverty are factors that irreversibly increase natural hazard vulnerability. As a result, in Ecuador, large family groups have less opportunity to live in a safe environment and recover from a future natural disaster.

The strategies and recommendations related to community-based organizations are oriented to increase the abilities of low-income communities to respond to natural events. The underlying assumption is that increased opportunities for community-based organizations to play a major role in pre- and post-disaster activities will be available if a) existing community organizations are strengthened through training; b) DPM activities are linked to programs that could improve the standard of living and address the basic needs of the community; and c) DPM activities can transcend the concept of physical shelter and address other related concerns, such as environmental degradation which is presently hindering development opportunities of low-income settlements.

Most low-income communities lack technical resources; they may not be aware that technical solutions to major community problems exist; resources might not be available to obtain needed information; residents may lack access to technical expertise required to select and implement the most appropriate interventions. It is within this context that training can provide a path to new technology and resources, especially in terms of minimizing the effects of natural hazards.

Training can be effectively delivered through an already existing network of NGOs that operates in Ecuador and elsewhere in the region. NGOs are educational in nature. They teach through their actions in the field or through interactive programs with the community; they are typically a successful mechanism for increasing local awareness.

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Initial training activities in Ecuador can be delivered through FIAD, which is a highly organized community-based organization that provides assistance to el Comité del Pueblo - a large neighborhood in northern Quito; through FEEOAC which includes more than 250 affiliated credit unions; and through CEMOPLAF, which operates as a national network of 500 representatives.

Training activities might focus on improving the design and quality of the shelter sector, improving disaster-resistant construction techniques and materials, and on addressing issues such as maintenance and credit opportunities for disaster reconstruction and retrofitting programs.

In most communities visited in Ecuador interest in DPM activities was most clear when an actual or threatened disaster was linked to programs that could improve the economy and living conditions of the community. Since disasters are regarded as events that might not take place within the lifetimes of the residents, the strongest community concerns are linked to present needs. La Lucha de los Pobres is a small community located in southern Quito. El Comité Pro-Mejoras is a grassroots organization that has provided assistance to this neighborhood. Presently UNICEF is delivering very successfully a program for the children in this community. Any program involving assistance for the children would have a positive reception within the community. In this sense, a program oriented to increase hazard awareness of the youth in La Lucha de los Pobres is appropriate. In addition similar training programs to the one proposed for the Comité del Pueblo should be carried out here for homeowners.

Communities are increasingly concerned with the impact of ecological/environmental degradation as one of the primary problems that are presently hindering their development process. In the past, economic development, environmental preservation, and disaster management were issues neatly compartmentalized within separate sectors. Presently, there is an increasing awareness that these issues are intimately interrelated. Natural and environmental disasters are mutually reinforcing events. The approach that jointly addresses natural hazards and environmental concerns will increase the opportunity to maximize the development opportunities of low-income settlements.

This program can be delivered with the support of Natura Foundation which is a local NGO that focuses on environmental conservation. A set of guidelines can be prepared on Urban Forestry Techniques to prevent soil erosion, a phenomenon which extensively affects various low-income settlements throughout Ecuador. In addition, the resources of LACUM might be utilized to develop a network of NGOs dedicated to environmental issues that have an interest in DPM activities.

## Increasing Private Sector Participation

The private sector -- in this case, the construction industry (builders, material producers and suppliers, architects, engineers), insurance companies, and financial institutions -- has traditionally not been involved in disaster preparation and mitigation activities. When disaster strikes, the private sector is impeded in its response by among others,

- procurement and contracting procedures that are slow at best;
- governments which attempt to carry out normal private sector functions such as the procurement of construction materials;
- technically unsound construction practices;
- an insurance system that simply does not cover the losses of the families most in need; and
- a financial system that is not prepared to provide credit for rebuilding to families most in need.

In addition, the technical expertise residing in the building professions are generally not focused on natural disasters, and consequently not utilized in DPM activities such as appropriate building codes, and planning and zoning regulations.

The strategies and recommendations related to the private sector are oriented to apply the expertise of the private sector to DPM activities and to increase the ability of this sector to respond to natural disasters. The underlying assumption of increasing private sector participation is that if a) the building professions participate in DPM activities; b) insurance mechanisms are developed for low- and middle-income communities; and c) credit is made available for post-disaster rehabilitation activities, then the special expertise of the private sector will enhance the resources available for pre- and post-disaster activities.

The building professions are affiliated in several different associations. There are two sound reasons to include these associations of professionals in DPM programs. First, the technical subjects they do pursue in their research and training have clear application to disaster mitigation efforts, and second, their membership includes specialists in virtually any needed technical skill. Within this context the active participation by the building professions in the preparation of municipal regulations that mitigate the effects of natural disasters; and the applied research by this group in areas such as construction technology for low-income housing is most appropriate. In addition expediting the procurement and contracting of private sector services in the event of a disaster, and delivering training both by and to building professionals are viable strategies.

In Ecuador, as in most of the developing countries, no law requires a homeowner to have insurance. Higher income families frequently do carry hazard insurance on their homes; lower income families -- those whose homes are most at risk and whose greatest equity is that home -- do not carry hazard insurance. RHUDO/SA should promote working with the

insurance industry to develop a program of traditional and innovative means by which the housing investment of low- and middle-income families can be financially protected in high risk areas.

It is extremely difficult for low-income families to secure any type of loans under normal circumstances, and it becomes virtually impossible for them to obtain credit quickly under emergency conditions. These circumstances are even more severe in the case of informal housing settlements. As part of the overall effort to increase the awareness, participation, and capabilities of the private sector in disaster mitigation, RHUDO/SA should coordinate the necessary activities to develop and implement a structure-framework whereby credit could be channelled for rehabilitation and reconstruction to low-income families residing in informal communities. By necessity, this approach is highly dependent on both local government and community-based organizations to interact with the private banking sector; their role is to assist in overcoming the barriers that traditionally stand in the way of low-income lending (repayment risks, high service cost, and low profit margins).

On-lending schemes designed for low-income groups should be in concert with promoting a fully market-oriented environment; if subsidization is desired, it should be done through transparent, direct transfers. If however, the circumstances with regard to income level, land titling, foreclosure, and so forth, are such that market schemes are not feasible at the present time, the special assistance to be provided by the local government and the NGOs, as far as reducing both risk and cost should, along with appeals to humanitarian consideration, assist in reaching workable accords.

### Project Implementation

The proposed DPM project concept will first be applied in Ecuador as a pilot effort. Then the concept will be adapted for future application in other RHUDO/SA countries.

The program described in this report will be implemented by a structure that integrates and applies the resources of international, regional, national, and local institutions. The strategies will be achieved by activities that focus resources on municipal governments, the private sector, and low-income communities. The experience and lessons learned will be continuously shared through various dissemination routes with neighboring communities, cities, and other countries. Project activities will be evaluated mid-way through implementation and a number of indicators have been identified for this purpose.

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**PART I: PROJECT OVERVIEW**

## 1. PROJECT BACKGROUND

Throughout South America, earthquakes, volcanoes, and floods have the potential to cause significant loss of life, damage to the built environment (housing, infrastructure, and lifelines systems) and disruption of the development processes. To address these concerns, RHUDO/SA intends to expand its capacity to assist disaster preparedness and mitigation (DPM) activities in the region.

### 1.1 GOAL

The goal of this project is to reduce the impact -- the loss of lives, damage to housing, and lifelines -- and disruption to development of natural disasters in low-income communities.

### 1.2 OBJECTIVES

In order to achieve this goal the objectives of this project are to enhance the participation and capabilities in disaster preparedness and mitigation of a) local governments; b) community-based organizations; and c) the private sector.

### 1.3 FOCUS

A well focussed natural disaster project by necessity cannot count on substantial financial participation by national governments, but rather must seek the involvement of other sectors -- local governments, community based organizations, and private sector. In this way, the effective use of available physical, economic, and human resources will be maximized.

The constraints and opportunities for participation by these actors in disaster preparedness and mitigation activities can be summarized as follows:

- o **Local Governments:** When a disaster strikes, municipalities are the first line of institutions from which communities request assistance. However, local governments are traditionally ill-prepared to respond to natural disasters; they lack emergency response programs as well as the economic and human resources necessary to provide effective emergency assistance to the affected communities.

A project directed to local governments should aim to assist municipalities in developing and maintaining a comprehensive and integrated disaster program. The program should be designed according to those specific hazards that threaten the jurisdiction. It should provide an agenda to be pursued before and after a disaster in an effort to improve the operational capacity of the municipalities.

- o **Community-Based Organizations:** The urban and rural poor -- constituting the vast majority of the total population in developing countries -- are usually those most affected by a natural disaster as they tend to occupy the most vulnerable sites and shelters. Normally, when a disaster occurs, these groups are not well integrated into existing disaster programs and lack the necessary knowledge to respond to catastrophic events.

A project directed to low-income communities affected by natural hazards should foster self-sufficiency in community-based organizations. In addition, it should assist communities in the effective use of local and human resources, and improve local capabilities to minimize and respond to the effects of natural disasters.

- o **Private Sector:** The protection of life and property from disasters requires the full mobilization and use of all resources of a community. An important and necessary component is the private sector which until now has not played a significant role in disaster planning and mitigation activities.

A project directed to the private sector should aim to increase the involvement of the private sector in preparedness and mitigation programs. It should contribute to planning for the mobilization of resources to be used during an emergency, as well as in mitigation strategies of land use and building codes, standards, and techniques, hazard insurance, and rehabilitation credit programs. The private sector can identify roles, responsibilities, key personnel, institutions, and physical assets that can be applied to pre- and post- disaster activities.

#### 1.4 LOCATION: PILOT ACTIVITIES IN ECUADOR

The early stages of this project are designed to be carried out in Ecuador. However, the project has been broadly formulated so that it is not only applicable in Ecuador, but also to other countries of the region (i.e., Bolivia, Chile, Peru, and Colombia). Indeed, it is anticipated that in order to achieve a comprehensive impact, RHUDO/SA will expand this program throughout the region.

In selecting Ecuador as the initial country, three primary factors were considered: a) Ecuador is one of the most naturally hazard-prone locations in South America; b) RHUDO/SA has its headquarters in Quito, making a project in Ecuador easily monitored; and c) over the past year, RHUDO/SA's Disaster Office has developed important relations with national and local institutions.

## 2. PROJECT ASSESSMENT

Municipalities, communities, private sector organizations, and international agencies were visited in Ecuador to collect information and opinion in order to assess:

- the possibility of implementing DPM programs in Ecuador;
- preparedness levels;
- mitigation opportunities;
- willingness to participate in DPM programs; and
- post disaster response and technical capabilities.

### 2.1 COUNTRY ASSESSMENT

Several meetings were held with the **municipal governments** of Quito, Ambato, Riobamba and Latacunga. These municipalities described their serious needs and expressed their strong interest in undertaking DPM programs. Indeed, in spite of the fact that municipalities well aware of the local implications of natural hazards -- many municipalities have already developed natural hazard maps -- they lack a coherent approach to mitigate the effects of natural disasters.

Quito, due to its primacy as the capital of Ecuador, has been experiencing for the last ten years an uncontrolled and uneven population growth. City in-migration has caused the increase of informal inter-urban neighborhoods in the city. Substandard housing built in highly eroded hillsides are increasing the risks from natural disasters throughout the city.

The Municipality of Quito has identified areas at risk from future eruptions of the Pichincha volcano. An eruption will precipitate large mudflows along Pichincha's two major ravines, Rumipamba and Rumiurco. A few villages in the surrounding areas as well as two major hospitals are at risk.

Ambato is the capital city of the Province of Tungurahua. Ambato is economically active, with urban commerce and leather manufacturing and industry. This situation has caused the proliferation of informal settlements on highly eroded hillsides. Considering the construction quality in these neighborhoods, an earthquake will cause major damage.

Riobamba is the capital of the Province of Chimborazo. It is an administrative and business center as well as a market town for agricultural production in the region. In recent years, however, Riobamba's economy has been affected by a decrease in agricultural production due to, among other factors, an excessive exploitation and erosion of agricultural land.

Cooperatives play a major role in Riobamba's urban development. They have become the force behind the proliferation of illegal settlements. Such neighborhoods increase the vulnerability and risk to major parts of the city. In the neighborhood of Santa Teresa, a

dispute over land by two cooperatives resulted in the municipality finding new land for development, and providing technical assistance and economic support for a housing project.

Latacunga is the capital of the Province of Cotopaxi, located on the slopes of the volcano of the same name. The Municipality of Latacunga has identified areas at risk from the Cotopaxi volcano. Two settlements, La Nueva Vida and Escurandia, with 50 and 120 houses respectively, are at major risk. The municipality has been successful in stopping further growth at these locations.

Two types of **community-based organizations** were visited. The first type included organizations with a national scope, such as Federación de Cooperativas de Ahorro y Crédito (FECOAC) which provides credit and technical assistance for 250 affiliated cooperative organizations; Centro Médico de Orientación y Planificación Familiar (CEMOPLAF) which provides community assistance in family planning education throughout Ecuador; and Fundación Natura which provides environmental education to communities and public officials, as well as technical assistance and management of environmental programs such as the debt-for-nature swaps.

The second type of community-based organizations included the Fundación Investigación-Acción para el Desarrollo (FIAD), a non-governmental organization (NGO) that provides community development support to El Comité del Pueblo (a highly organized neighborhood in northern Quito); Comité Pro-Mejoras, a grassroots organization that promotes community development activities in the neighborhood of La Lucha de los Pobres in southern Quito; and Fundación Casa Campesina de Cayambe which is an NGO that undertakes community development programs with the indigenous groups of the Cayambe area. In addition, the municipality of Otavalo assisted the team's search for community interest in DPM activities.

In order to ascertain the capabilities and interest of the **private sector** to participate in DPM activities, several meetings were held with representatives of developers, architects, and engineers in Quito and Guayaquil. The associations of architects, of engineers, and of developers together represent thousands of professionals, with experience in construction technology, materials technology, building codes, and seismic standards. These designers, builders, analysts, researchers, and professors expressed serious interest individually and on behalf of their associations in working with municipal governments and community groups, and in hosting DPM training events.

The team met with representatives from the insurance and financial sectors to gain an understanding of the opportunities and obstacles to their participation in DPM activities. Issues such as inadequate laws and regulations, traditional markets, and perceived poor creditworthiness were raised. Nevertheless, the industry recognizes the significant financial role that they can play in providing protection and credit to low-income families who suffer after natural disasters, and consequently expressed serious interest in working with the project.

In summary, there is very good receptivity and willingness within different sectors of Ecuador to undertake disaster mitigation activities. Together with the Ecuador's risk and vulnerability to natural disasters, these facts suggest that DPM activities can be implemented in a sustainable manner in the country.

## **2.2 NATURAL DISASTER ASSESSMENT**

### **2.2.1 PROJECT FRAMEWORK**

Natural disasters are defined as those disasters resulting from the consequence of a natural phenomenon such as climate or geologic conditions. Such disasters include earthquakes, floods, hurricanes, and volcanic eruptions. Although the results of natural disasters are determined by man's actions or lack thereof, man has no control over the disaster's occurrence.

In contrast, man-made disasters are defined as those disasters whose occurrence result from decisions or lack of decisions made by human beings or entities instilled with the responsibility for these decisions. These disasters include such phenomena as dam failures, bridge collapses, building collapses, hazardous material accidents, fuel storage and pipeline explosions, and nuclear accidents. This proposed program does not specifically deal with man-made disasters for one primary reason. The governmental responsibility in preventing such disasters is paramount, the resulting destruction to the individual low-income homeowner is a direct result of the government's (or in some cases private corporation's) action or lack of action.

This proposed project deals specifically with natural disasters. However, some issues addressed in this project are an outcome of man-made disasters, such as erosion which might increase the damages caused by earthquakes and floods. Furthermore, many of the results of this project can be used to develop a similar project for man-made disasters through the necessary change of focus and roles and responsibilities (primarily increased government responsibility and a corresponding reduction in homeowner responsibility).

### **2.2.2 NATURAL DISASTERS IN ECUADOR**

Ecuador is one of the countries in South America that has the highest vulnerability and risk of natural disasters. For example, in the last decade alone, Ecuador has lived through two devastating natural disasters: widespread coastal flooding in 1982-83 caused by the cyclical El Niño phenomenon and the 1987 earthquake which affected four provinces in northeast Ecuador (Pichincha, Imbabura, Carchi, and Napo).

Ecuador is located along the circum-Pacific belt known as the ring of fire which encircles the Pacific Ocean. This area is well known for its long history of volcanic eruptions, earthquakes, tsunamis, landslides, and floods which typically characterize dynamic tectonic settings such as the Andes mountains.

The Andean mountain range divides mainland Ecuador into three principal geographic regions:

- The tropical coastal region to the west of the Andes. This area comprises a relatively flat terrain, except for a low mountain range along the shoreline. In the coastal region the population amounts to 52 percent of the country's total.<sup>1</sup> The population is divided among Guayaquil, Ecuador's largest city, numerous small cities, and a scattered rural population.
- The Andean region rises more than 6,000 meters above sea level and is dominated by two principal mountain chains: the Western and Eastern Sierra. Both systems are crowned by enormous strato-volcanoes. Lying between them is the Interandean Valley, a great elongate depression which comprises many of Ecuador's principal cities. The inhabitants of the Andean highlands make up 43 percent of the country's population, residing principally in the cities and agricultural areas located in or near the Interandean Valley.
- The Amazon plain begins at the foot of the Andes and spreads eastward. It is the least populated region in Ecuador. Population has been estimated at 5 percent of the total, mostly living in the Amazon region.

Ecuador's major natural hazard risks are:

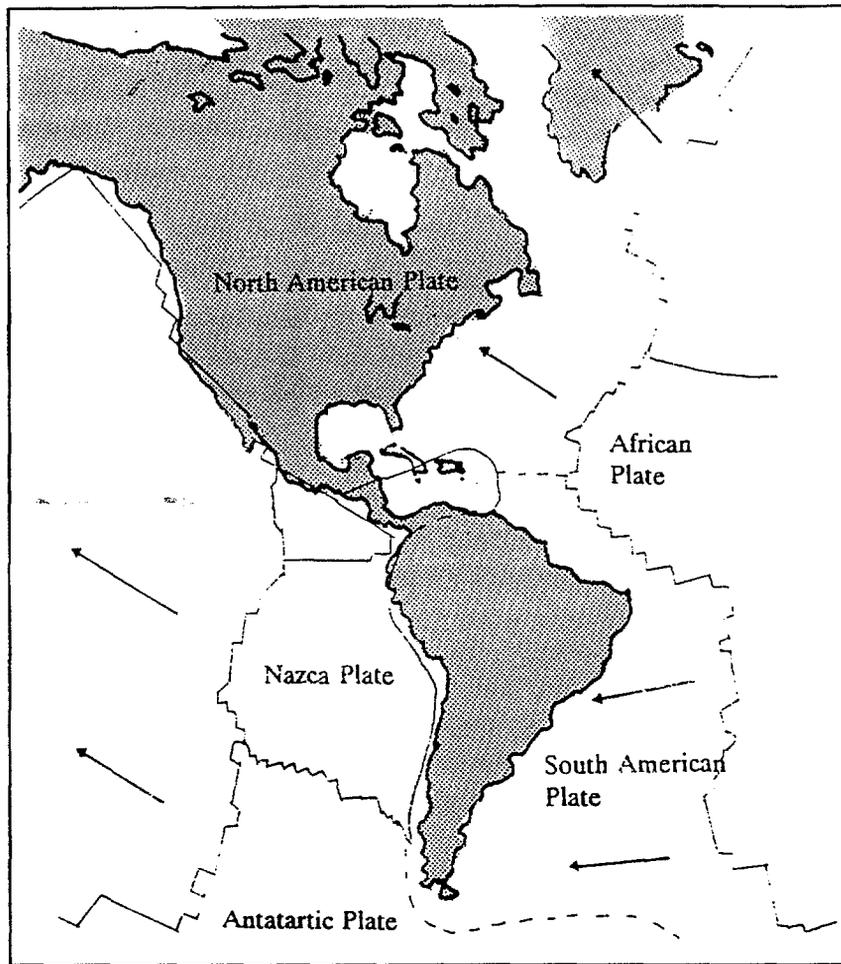
- o **Earthquakes:** Ecuador is well known for its severe earthquakes as it is located along one of the most active subduction systems of the world. As the oceanic Nazca Plate moves eastward it pushes its way under the South American Plate, while the latter moves westward. In addition, the Carnegie Ridge, under Ecuador has intensified the stresses acting upon the continent resulting in a well developed set of active geological faults.

As a result, intermediate and large magnitude earthquakes have frequently occurred causing large loss of lives and property in Ecuador. During the past 460 years more than 80,000 have died as a consequence of major earthquakes.

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<sup>1</sup>Ecuador's total population has been estimated at 10.2 million.

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Tectonic plates affecting the earthquake and volcanic systems in South America.

The following tectonic environments are responsible for most of the destructive earthquakes in Ecuador and neighboring countries:

- Offshore under the submarine continental platform, at the contact between the colliding plates. In Esmeraldas a series of four major earthquakes with magnitudes greater than seven have taken place in this century (1906, 1958, 1974 and 1976); the 1906 earthquake was one of the largest ever registered in the world (magnitude = 8.6). These earthquakes caused damage not only in the coastal areas, but hundred of kilometers inland as well.

Furthermore, the frequent recurrence of major shocks along Ecuador's coast suggests the presence of a seismic fault which has been projected to have an earthquake with a magnitude larger than seven before the year 2000.

- The Andean tectonism which manifests itself as a long belt of active faults along the eastern foot of the Andes. The intersection of several of these active fault systems lies in the populated Interandean Valley. As a result, devastating earthquakes have frequently occurred in this area, such as that in Riobamba in 1797 causing 40,000 deaths, Ibarra in 1868 resulting in 20,000 victims, and Pelileo in 1949 with 5,000 deaths.

Most recently, the 1987 earthquake affecting the Northern and East Sierra (magnitude = 6.9) resulted in 2,000 deaths, generated thousands of landslides that blocked petroleum transportation and export for eight months, and has severely damaged Ecuador's economy for many years to come.

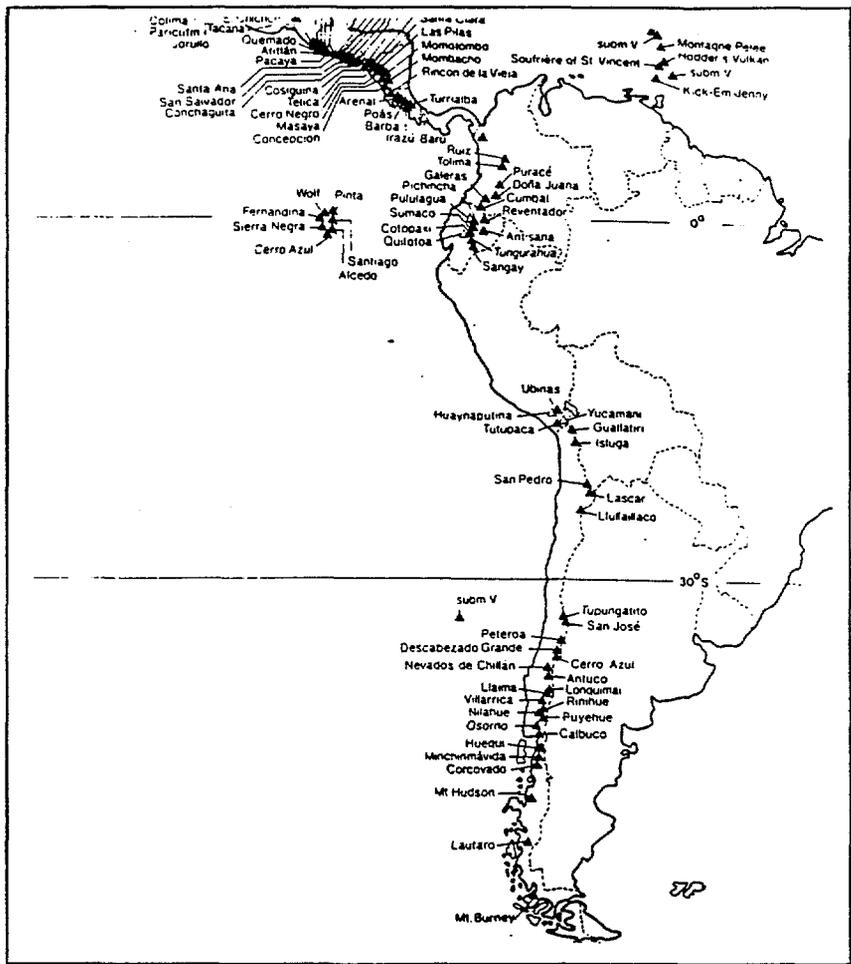
- o **Volcanoes:** More than 200 volcanoes have been recorded in Ecuador of which 25 are active or have the potential to become active. At present the volcanoes that show major activity are Reventador, Guagua Pichincha, Antisana, Cotopaxi, Quilotoa, Pululagua, Tungurahua, and Sangay.

In Ecuador four parallel rows of active volcanoes are identified (single rows of active volcanoes typically characterize most of the South American volcanic chain):

- The Western Sierra is dominated by nearly 20 volcanoes, many active, characterized by explosive eruptions, extensive pyroclastic flows, and calderas. This system includes the Chimborazo, Guagua Pichincha, Cuicocha, and Quilotoa volcanoes.

The Guagua Pichincha has had three periods of activity and eruptions over the past three hundred years. Volcanologists believe that Guagua Pichincha might become active again in the near future. Eruptions of the Guagua Pichincha could completely destroy various small villages located on the flanks of the volcano, and generate enough volcanic ash and secondary mudflows to seriously impair Quito's water supply and infrastructure systems.

- The Eastern Sierra includes nine young volcanoes, most of them with extensive snow and ice caps. This system includes Antisana, Cotopaxi, Tungurahua, Sangay, and Cayambe volcanoes. These volcanoes are characterized by abundant lava flows, lahar (mudflows), and small pyroclastic flows. Because the prevailing winds are from the east, ashes from the eruptions have commonly been carried westward into the Interandean Valley where several important cities of Ecuador are located.

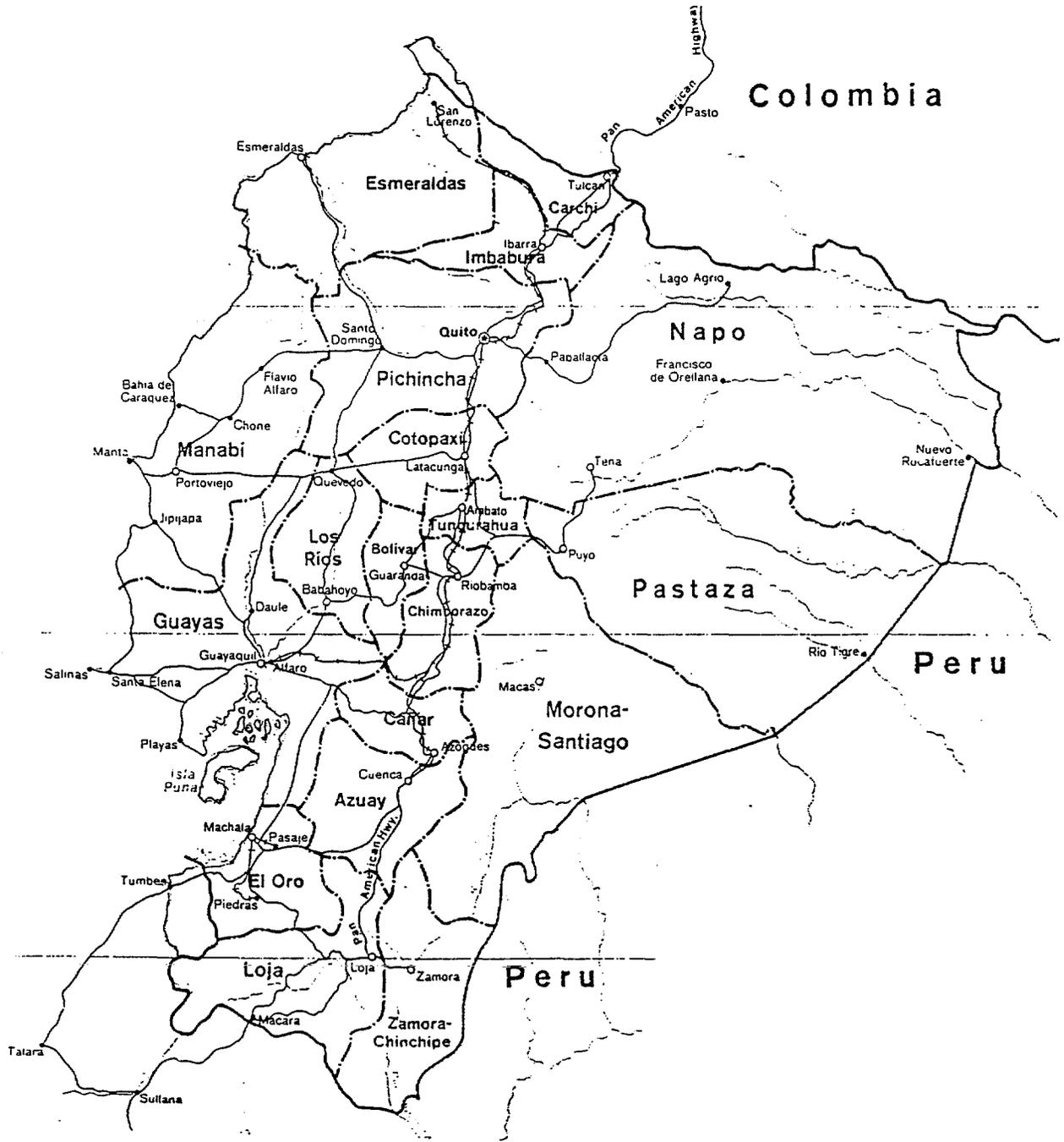


Volcanic system of Central and South America. Courtesy of the Republic of Germany.

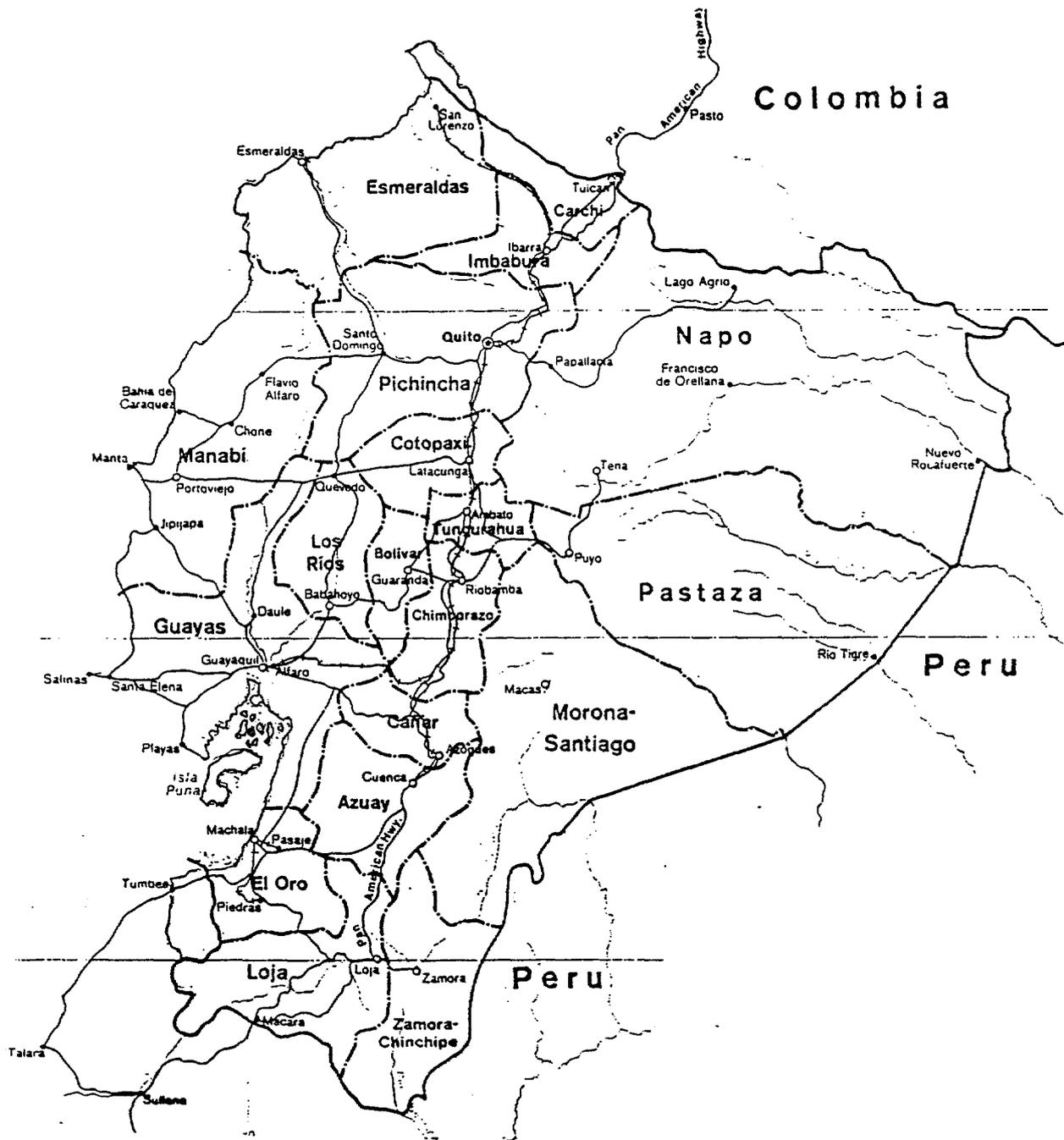
Much of the damage from the volcanoes of this group has been caused by devastating debris and mudflows, generated by the sudden widespread melting of the snowcap by the eruption activity. Within this group, Tungurahua has erupted more than 25 times. Based on its history of eruptions, Tungurahua is likely to erupt within the next fifty years.

Cotopaxi volcano has erupted more than 30 times in recorded history and has generated nine major lahar disasters since 1742. Cotopaxi has remained quiet for the past 113 years; however based on its eruptive history volcanologists believe an eruption can be also expected within the next fifty years. When eruptions occur in the future it is estimated that about 30,000 to 130,000 people will be affected in Quito, Latacunga, and Los Chillos.

# Ecuador



# Ecuador



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- The Interandean Valley includes several extinct volcanoes. However, recent studies have determined that Mojanda and Imbabura volcanoes, both surrounded by numerous towns, are not extinct, but have had major eruptions and rock avalanches in the recent past. For example the capital of Imbabura Province, Ibarra, with its 80,000 inhabitants, is built entirely on a widespread avalanche deposit only a few thousand years old.
- Due to its remoteness, the volcanoes of the Amazon Basin have been generally considered to pose no special danger. However, during the 1987 earthquake, which occurred near one of these volcanoes, loose volcanic deposits slid off the mountainous slopes and were converted into enormous debris flows, which swept away the principal petroleum pipeline and the only highway to the oilfields.

- o **Floods:** Two principal types of flood disasters occur in Ecuador, those related to the intense El Niño events and those due to the occasional, but severe local storms.

The movement of warm tropical water along the coast brings in a vast convective air movement which produces rainfall. Occasionally the tropical air mass shifts farther south causing intense and persistent rainfall throughout the coast. This phenomenon is known as El Niño and occurs approximately every five to eight years. In this century, El Niño has been observed in 1917, 1925, 1932, 1953, 1966, 1972, 1982-1983, and 1987-1988.

The 1982-1983 El Niño was the most severe in recorded history. Rainfall in Guayaquil increased nearly two-and-a-half times normal levels. Abnormal rainfall occurred as far south as Trujillo on the north-central coast of Peru, to the extreme northern coast of Ecuador, as well as part of the Sierra. In Ecuador, El Niño resulted in hundreds of deaths and hundreds of million of dollars worth of damage. An estimated 13,750 houses were severely damaged or destroyed; 40,000 families were affected; and 223 schools, 25 bridges, and 1,300 kilometers of roads were damaged or destroyed. Economic losses were estimated at US\$640.6 million.

The second type of floods that affect Ecuador are due to local storms which in turn cause flash flooding. This type of event is precipitated by a large surface runoff which rapidly becomes concentrated in deep, narrow canyons cut into the steep flanks of the Andes. Flash floods have caused extensive damage to villages and roads located along the banks and floodplains of the rivers.

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## 2.3 INSTITUTIONAL ASSESSMENTS

The following organizations are local and international institutions that might play a significant role when implementing this project.

### 2.3.1 LOCAL INSTITUTIONS

The Civil Defense, created by the National Security Law in 1979, is the highest authority empowered to regulate and organize natural disaster activities in Ecuador. One of the major problems faced by the Civil Defense is the lack of funds. The Civil Defense frequently turns to international donors for program support, thereby becoming increasingly dependent on external funding.

Although research has shown that disaster mitigation measures are more beneficial than emergency relief, Ecuador's Civil Defense programs still focus extensively on relief and preparedness, devoting very limited attention to mitigation itself. The allocation of resources to post-disaster reactions is clearly not sustainable; at this national level, mitigation measures must be promoted.

The Civil Defense operates through "Juntas" and "Jefaturas" that are structured as follows:

- At the provincial level, the Junta is comprised of the Governor, the "Prefecto", and the Mayor. The "Jefatura" includes the Police Department, the Red Cross and the Fire Department.
- At the canton level, the "Jefatura" is comprised of the President of the Municipality, the Police Chief, the Fire Chief, and representatives of the Red Cross, religious institutions, and political groups.
- At the parochial level, the "Jefatura" is comprised of important political, religious, and community representatives.

Theoretically, the Civil Defense is a nationwide network. However, it has failed to effectively deliver its programs at the community level. For example, although the Civil Defense has developed various emergency plans related to different types of hazards affecting Ecuador, the information has not reached the communities visited during the team's fieldwork. Moreover, community residents regard the institution of the Civil Defense as a remote and unknown entity.

When developing disaster programs, a permanent relationship between Civil Defense and communities is important. The Civil Defense itself might well benefit from RHUDO/SA initiatives in DPM activities. However, the most effective approach will be to strengthen the "Juntas" at the parochial level since important community leaders are involved at this

level; in this way, Civil Defense might expand its outreach to an important segment of society.

In preparation for a U.S. government response to a natural disaster, each USAID Mission Disaster Relief Officer in the region has prepared a relief plan and established working relations with national civil defense offices. This provides the opportunity to work with civil defense authorities on programs besides emergency relief, namely mitigation and preparedness.

### 2.3.2 NATIONALLY-BASED INSTITUTIONS

In Ecuador there are several nationally-based international institutions that are developing programs in the areas of natural disaster, municipal government, and community development. These institutions include Partners of the Americas, World Bank, Interamerican Development Bank (IDB), United Nations Development Programme (UNDP), and Organizations of the American States (OAS).

Coordination between this project and such organizations will expand the resources of the project, avoid duplication of activities, and consolidate a national network capable of undertaking DPM activities. Many of the objectives and activities of these institutions converge with those of this project.

- o **Partners of the Americas:** Partners of the Americas has substantial experience in disaster preparedness activities in Latin America. In Ecuador, it is currently implementing an Emergency Preparedness Program with several activities relevant to this project.

Partners provides extensive training to low-income communities through its program of Public Awareness and Preparedness Education. This private volunteer organization is providing training in emergency management; disaster volunteer corps personnel; and school safety and preparedness. It is also working very closely with the Corporación Ecuatoriana de Trabajos Voluntarios. Through this "Voluntariado", Partners has been able to disseminate its training program throughout the country. In addition, Partners has created seven subcommittees for Emergency Preparedness. These subcommittees are actively working in Quito, Guayaquil, Cuenca, Ambato (where an excellent training program for children is being developed), Santo Domingo, Machala, and Esmeraldas which are the most vulnerable cities in Ecuador.

The DPM project will benefit from close coordination and collaboration with Partners. Selected material from Partners' school safety and preparedness program can be utilized in this program. Opportunities to disseminate its material on DPM activities, and expand its network in the field through Partners' subcommittees and the Corporación Ecuatoriana de Trabajos Voluntarios can be pursued.

- o **Interamerican Development Bank:** The IDB is implementing a program whose main objective is the promotion of municipal development by strengthening the administrative and financial capacity of local governments. This program finances construction, rehabilitation and extension of urban infrastructure. A credit line has been established in Banco Ecuatoriano de Desarrollo Económico (BEDE) for this purpose.

The program provides financial support for projects that are considered priorities within the planning activities of municipal governments. This is important given the intent of this DPM project to place DPM activities within the normal planning process of local governments.

Local governments should be encouraged to request that the IDB municipal program finance natural hazard programs -- i.e., risk assessment studies and natural hazard management -- that are integral to projects of potable water, community upgrading, roads, markets, and other lifeline elements. The convergence of project objectives should be built on.

- o **United Nations Development Programme:** The UNDP has long been involved in disaster-related activities in various ways: as a funding source; as the field representative of the United Nations Disaster Relief Office (UNDRO); and as coordinator of disaster relief activities.

The UNDP is currently supporting disaster mitigation and preparedness projects in several countries. UNDP and UNDRO are promoting an initiative to provide training activities to in-country personnel, NGOs, bilateral donor representatives, and representatives of central government planning organizations in disaster reduction. The activity emphasizes the links between disaster reduction and ongoing development.

In addition, UNDP is implementing a program in which it has prepared manuals to improve the construction of low-cost housing. Information is presented on construction technology, disaster resistant methodologies, and building materials for each of Ecuador's three main geographic regions. RHUDO/SA's DPM project will be able to benefit from this work, applying the manuals in the pilot projects and disseminating them to appropriate community groups in the country.

- o **World Bank:** The World Bank is developing a program that will provide education and training to Ecuadorean NGOs. The DPM project should coordinate closely with the World Bank and one of its implementing institutions, the Fondo de Interés Social, which will be responsible for the disaster mitigation for housing component.
- o **Organization of the American States:** The OAS is developing maps that combine assessments of two or more natural hazards. The combined effects of natural

phenomena on an area can be determined and mitigation techniques applicable to all disasters can be identified. With such maps, vulnerability and risk can be analyzed. Critical lifeline facilities -- transport and communication, utilities, medical, police, and fire stations -- can also be mapped. Combining lifeline mapping with hazard mapping permits the identification of appropriate mitigation measures. The OAS is undertaking this program throughout the Americas, and DPM activities should utilize those resources in Ecuador.

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**PART II: AN APPROACH TO EXPAND PREPAREDNESS AND  
MITIGATION ACTIVITIES IN ECUADOR**

### 3. PROJECT APPROACH

The project approach has been designed to achieve the project objectives of expanding the participation of local governments, community-based organizations, and the private sector in disaster preparedness and mitigation programs.

Each of the major objectives of this project have been divided into two elements: the problem and strategies and recommendations. The latter reflects the most appropriate activities to be carried out during the first stages of RHUDO/SA disaster initiatives in South America. It is anticipated that the major portion of RHUDO/SA's funding for DPM programs will be devoted to the implementation of these strategies.

The following elements were taken into consideration during the development of the project approach:

#### o Basic Guidelines

- effectiveness from the standpoint of preparedness, mitigation, and the environment;
- a receptive municipal government;
- a receptive and well established community;
- interested NGOs and/or grassroots organizations;
- effectiveness from community standpoint;
- receptive institutions in the private sector;
- affordable technology and solutions;
- problems in common to be a source of concern in other locations; and
- prompt results.

#### o Potential for Success

- **Strategies must be amenable to a solution which can be sustained by the community and/or recipient institution once the project has formally ended.** The selected municipalities are considered the strongest in Ecuador in terms of organization, personnel, and economic resources; the selected communities are highly organized, and community organizations have been operating in those communities for a long period of time, carrying out self-help programs (i.e., El Comité del Pueblo has recently completed a potable water project for 6,000 persons by working with a strong community).

From the private sector, institutions from the building professions, credit institutions, the insurance industry, among others, who recognize that DPM activities as an area of interest were identified.

- **Preparedness and mitigation activities should be able to be located within the normal development process of the recipient institutions and selected communities.** The activities of this project have been designed to place disaster events in the development process. The project considers the current planning functions of local government, community needs, and private sector interests in disaster response. The underlying logic for this approach is that disaster programs are not sustainable if they are set apart to respond exclusively to emergency situations. The tasks of strengthening awareness and institution building in disaster preparedness and mitigation activities must be an integral component of the normal development planning process.

- o **Subsequent Steps**

The Action Plan in Part III details the short, medium, and long-term activities to be carried out. It is expected that the experience and lessons learned from this project will lead to similar activities throughout Ecuador, and in other countries.

The selection of future locations for project activities in Ecuador should be based on information about low-income communities (various poverty studies have been prepared in Ecuador; e.g., el Fondo de Seguridad Social recently completed a study which identifies 59 communities with incomes below the poverty line) and on disasters affecting different locations.

DPM activities in terms of lifelines are limited in Ecuador to addressing only the overall infrastructure system in targeted low-income communities. However, it is expected that as RHUDO/SA expands its initiative throughout the region, lifelines systems should be addressed as a full strategy. Lifelines play a critical role during natural disasters. The most important lifelines are those that provide water, electricity, transportation (roads, highways, and bridges), fuel, sewage removal, and communications. Other important community lifeline facilities that are essential after a disaster event include such public services as schools, hospitals, police stations, and other vital public utilities. When these elements are most needed -- in times of disaster -- they can fail or be disrupted as a result of the disaster itself. DPM activities can reduce the vulnerability of lifeline failures and by keeping them functioning and effective, the effects of natural disaster can be reduced.

## MAJOR PROJECT COMPONENTS

|  |  |  |
|--|--|--|
| <p><u>RHUDO/SA</u><br/>Regional Housing and Urban Development Office for South America.</p> <p>Responsible for promoting DPM activities in South America.</p> <p>Responsible for project management and implementation.</p>  | <p><u>DPM activities</u></p> <p>This term reflects three concepts:</p> <p><u>Disaster</u>: An occurrence of severity and magnitude that normally results in deaths, injuries, and property damage.</p> <p><u>Mitigation</u>: Mitigation refers to measures which eliminate, reduce, or change the occurrence or effect of a disaster.</p> <p><u>Preparedness</u>: Preparedness is planning how to respond when a disaster occurs and working to increase resources available to respond effectively.</p> | <p><u>Municipal Government</u></p> <p>In this project, the role of municipal governments is to include within their normal planning process actions to be taken before and after a disaster, to promote the involvement of other economic sectors, and to undertake training activities directed to staff and key community sectors.</p> |
| <p><u>Community-Based Organizations or Non-Governmental Organizations (NGOs)</u></p> <p>These organizations are community groups working on one or several community development problems. Their primary responsibility is to assist local communities in gaining the resources and leverage necessary to control their own development process.</p> | <p><u>Private Sector</u></p> <p>In this project private sector includes the construction industry (builders, material producers and suppliers, architects, engineers), the insurance industry, and credit institutions that might become involved in DPM activities.</p>   | <p><u>Nationally-Based Institutions</u></p> <p>In this project nationally-based institutions are those international organizations operating in Ecuador that are presently supporting development programs and that might have a role in supporting DPM activities.</p>  |

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## 4. OBJECTIVE I: INCREASING LOCAL GOVERNMENT PARTICIPATION

### 4.1 THE PROBLEM

Municipal governments are key institutions within a country's system of government. Municipalities provide the necessary means for the collective well-being; contribute to the protection of local interests; plan and promote community development; and deliver basic services.

It is within this context that municipalities are the most appropriate government institution to carry out preparedness and mitigation activities. It is the level of government closest to and with the most impact on communities and individuals.

Unfortunately, municipal governments typically are ill-prepared to anticipate or respond to natural disasters. While they may be equipped to carry out functions under normal circumstances, they do not have the resources to respond to the massive demands of the community when a disaster strikes.

Municipalities generally have not prepared plans to minimize and respond to catastrophes. They do not devote their limited administrative resources to DPM activities. For instance, although hazard awareness studies have been initiated in many municipalities, the information developed is limited to disaster relief activities, not preparation and mitigation, and in any case, is not disseminated to the community.

As major cities experience rapid urban growth, the opportunities for municipalities to play an effective role in disaster mitigation becomes more difficult. Local governments find it difficult enough to plan and provide a satisfactory environment to absorb the growing levels of an urban population, much less plan for future events such as disasters.

Municipal governments face serious administrative problems which also hinder their ability to provide efficient services to their constituency. The deficiency of municipal finances is rooted in the inability to collect taxes and other municipal revenues. This inability is tied to, among other issues, the lack of an accurate cadastral system. This problem has an important impact for DPM activities. The lack of adequate land controls allows the number of informal settlements to increase -- built virtually without any control and standards and where the legalization of land ownership has not yet started. This well documented phenomena -- informal settlements in high risk locations, substandard housing, lack of adequate infrastructure, and overcrowded conditions -- is a major contributor to the devastating effects of natural disasters.

## 4.2 STRATEGIES AND RECOMMENDATIONS

The following strategies and recommendations are intended to increase the participation of municipal government in DPM activities. The underlying assumption of these strategies is that if municipal governments a) include within their normal planning process actions to be taken before and after a disaster; b) promote the involvement of other economic sectors; and c) undertake training activities directed to staff and the community, they will be better able to effectively respond to natural hazards.

The strategies and recommendations included in this section are designed to be carried out simultaneously in the municipalities of Quito, Ambato, Latacunga, and Riobamba.

### 4.2.1 INCORPORATING DPM ACTIVITIES WITHIN THE MASTER PLANS OF MUNICIPAL GOVERNMENTS

#### A. STRATEGY

Several municipal governments are taking definitive steps to update, expand, or prepare their master plans. This activity is supported by IDB, the World Bank, the German Aid Agency (GTZ), and the Asociación de Municipalidades del Ecuador (AME), among others.

DPM considerations can easily be included in city master plans. For example, a land use plan that identifies urban service areas where urban development is encouraged can also identify hazard areas -- flood plains, fault zones, volcanoes -- emergency shelters, and land for relocation. Such plans will improve the likelihood that local governments will adopt DPM activities in a permanent and sustainable manner since they will become an integral part of the city's normal planning process.

All municipal governments included in these strategies and recommendations are presently preparing master plans. Quito, Ambato, Riobamba, and Latacunga had already developed natural hazard maps; vulnerable communities have been identified. Recommendations are in place to improve hazard resistance codes.

The core of these strategies is that DPM activities should be promoted within municipal governments and adopted as part of the normal development process of municipalities. This in turn will increase the potential for RHUDO/SA's natural disaster initiatives being developed in a sustainable manner in Ecuador.

## **B. RECOMMENDATIONS**

- o **To develop collaborative efforts with the municipalities to expand their planning activities to incorporate DPM measures.**

RHUDO/SA should provide assistance to the municipalities of Quito, Ambato, Riobamba, and Latacunga on the following issues in order to include DPM activities in their planning process.

- To identify and define objectives and policies of DPM activities to be introduced into local government plans, policymaking, and operations.
- To prepare vulnerability and risk studies as integral parts of municipal development planning programs.
- To ensure that codes, ordinances and regulations controlling development are reviewed within the framework of natural disasters, and that as such, they provide protection consistent with the degree of risk.
- To develop alternatives for legislation to control the growth of settlements in high risk zones.
- To develop affordable minimal standards for construction of housing by the informal sector that provide disaster protection.
- To develop land tenancy practices (supported by cadastral systems) for the informal sector (excessive high land development standards; streamlining of certain administrative procedures; softening of titling procedures) that promote DPM practices.
- To identify land for possible reallocation of housing from high risk areas to lower risk areas; this should consider the demand for land and housing by distinct market segments, future roles of the public and private sectoring both formal and informal land development, and the legal and regulatory institutional framework.
- To develop adequate taxation or disincentives for development in designated high risk zones.
- To develop retrofitting practices in high risk areas; these can be introduced during homeowner and public building renovation.

- To help municipalities seek opportunities to undertake mitigation studies and activities when, for instance, nationally-based institutions are supporting municipal development projects.

## 4.2.2 DEVELOPING PUBLIC/PRIVATE PARTNERSHIPS

### A. STRATEGY

There will always be emergencies and disasters. Mitigating them, preparing for them, responding to them, and recovering from them continue to be fundamental responsibilities of local governments, even as they face serious budget constraints.

One of the problems that contributes to municipal government weakness is that national resources are managed by central governments; the economic model of the 1960s and 1970s gave a leading role and major control to a centralized public sector. When a disaster strikes, local governments do not have the resources to respond quickly to local needs and the central government is too far removed to quickly and effectively devote national resources to the affected community. In this sense, local governments become administratively and operationally ineffective during a disaster.

In the last decade, there is a growing tendency to develop public/private partnerships to expand the local resource base in support of development programs. Local governments are increasingly entering into agreements with the private and informal sectors to address community programs. For instance, municipal governments are installing basic infrastructure as private developers undertake housing projects for low-income families. Public/private partnerships will continue to grow in importance in the coming years.

The underlying assumption of this strategy is that public/private sector partnerships can be a positive force in developing disaster programs, and can help reduce the economic burden on municipalities when responding to local disasters.

### B. RECOMMENDATIONS

To implement public/private sector partnerships, RHUDO/SA should promote collaboration and communication between municipalities and various leading community sectors. The purpose of this activity is to develop a cadre of institutions with shared responsibilities in DPM activities. These recommendations derive from the view of municipal government needs.

RHUDO/SA could support meetings, workshops, and if necessary, act as a coordinator within these sectors when promoting this strategy. It is anticipated that the Latin American Center for Urban Management (LACUM, see annex 1) can provide an appropriate forum for these activities.

o **Promoting partnerships to increase the adoption of mitigation measures within private sector projects.**

Municipal partnerships with the private sector can promote incentives such as loans, guarantees, grants, or tax reductions for those institutions and individuals that comply with disaster initiatives in high risk areas. Incentives can be provided, for example, for the use of building hazard-resistant codes and locally manufactured building materials.

Equally critical is to promote the collaboration of community planners, architects, and engineers, professional associations, and banking/financial institutions to collaborate in the formulation of the master plan and training activities programs of municipalities (other complementary recommendations from the private sector view are presented in section 6). The advantage can be mutual; municipalities can take advantage of the practitioners in the field while professionals can have an input on the decision making process of local urban development. This type of activity can result in projects such as new land-use policies that limit construction projects in hazard-prone areas.

o **Promoting partnerships to increase the adoption of mitigation measures within the informal sector projects.**

Due to unplanned construction, the use of non-conventional materials, and the absence of sound technical skills, the quality of construction in most peripheral settlements is poor. Municipalities should strengthen their relationship with community-based organizations, neighborhood associations, grassroots organizations, cooperatives, and financial institutions that provide credit to the informal sector members and/or participate in community development projects. Partnerships between municipal governments and the informal sector can address the following roles for municipal governments:

- To serve as guarantors for NGOs when they have the potential to receive local or international loans for development activities, such as improving housing and infrastructure conditions in poor neighborhoods.
- To make loans to informal private sector organizations or jointly-held financial institutions that agree to make specific types of housing loans, such as for those that comply with seismic resistant mitigation measures.
- To promote a program of public/private participation to solicit views from interest group and concerned citizens at the community level. For example, NGOs and key leaders can collaborate on the preparation of hazard assessments in their communities; they usually have first hand experience from

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past disasters. Pilot project activities might start in the neighborhoods of La Nueva Vida and Escurandia in Latacunga, and Santa Teresa in Riobamba.

- To utilize NGOs and key leaders in the preparation of documentary material about natural hazards. Pilot project activities might be initiated in the neighborhoods of La Nueva Vida and Escurandia in Latacunga, and Santa Teresa in Riobamba.

o **Promoting partnerships with the media.**

The media is a powerful resource that can be used to deliver DPM activities in an accurate and objective way to the community. Municipalities should invite the media to participate in educational programs for preparedness, mitigation, risk reduction, and rehabilitation activities.

### 4.2.3 DELIVERING TRAINING ACTIVITIES

#### A. STRATEGY

There is a growing consensus that local government staff need more systematic training in supervisory, managerial and other technical skills related to DPM activities. This type of activity is supported in many countries by bilateral and multilateral donors. The underlying assumption of this strategy is that the more professionally managed and operated a city government is, the better prepared for natural disasters it will be.

#### B. RECOMMENDATIONS

Training that has an impact on DPM activities includes policy and awareness, traditional municipal management and administration, and resource mobilization, as well as specialized disaster-related skills.

- o **Mayors, council persons, and other political leaders should be trained to understand the importance of disaster preparedness and mitigation.**

National level training events to which city representatives are invited can include DPM awareness in courses.

- o **Staff should be trained in the characteristics of hazards and their consequences and severity.**

An effective program can be prepared and applied through forums, workshops, actual drills, and other such activities. Subjects will include hazard definitions, risks, and vulnerability (the potential impact on the population, property, economy, environment, and the ability to recover).

- o **Community outreach and technical staff should be trained in mitigation measures.**

Hazard-prone structures can be made safer through rehabilitation. Residents can be provided with information, through neighborhood workshops, that promotes the incorporation of hazard mitigation techniques in maintenance, repair, and home improvement projects.

- o **Strengthening the capacity of municipal planning units.**

To assist municipalities, technical information can be collected on natural disaster related issues. Many relevant documents have been prepared by OAS and the Federal Emergency Management Agency (FEMA).

Some of LACUM's current municipal government training events should be focussed on DPM activities in local planning units. The AME and the Instituto de Fomento y Desarrollo Municipal (INFODEM) are presently delivering training courses to municipalities on subjects of municipal development. Municipalities might request that DPM topics be included in workshops and training activities of these and similar organizations (e.g., land use studies that include mitigation measures in high risk neighborhoods).

### 4.3 SUMMARY OF LOCAL GOVERNMENT ACTIVITIES

Activities will be carried out in the municipalities of Quito, Ambato, Riobamba and Latacunga.

#### o TECHNICAL ASSISTANCE

Assistance will be provided to selected municipalities in the preparation of their Master Plans. Assistance should be directed to:

- . The formulation of policies related to DPM issues.
- . Vulnerability and risk studies.
- . Codes and ordinances.
- . Legislation.

#### o PREPARATION OF NATURAL HAZARD INFORMATION AND VULNERABILITY MAPS

The communities of La Nueva Vida and Escurandia in Latacunga and Santa Teresa in Riobamba will develop natural hazard information and prepare hazard vulnerability maps with the support of the municipality. Assistance must be provided to carry out this program.

#### o TRAINING

Training will be provided on DPM-related issues to:

- . Mayors and officials (Consejales, Prefectos).
- . Administrative staff.
- . Community outreach program staff.
- . Community development program staff.
- . Municipal planning staff.

Several workshops will be prepared to increase the collaboration of different sectors in programs launched by municipal governments. Workshops should be directed to:

- . Private construction sector, such as community planners, architects, engineers, professional associations.
- . Private financial sector, such as banking, credit, and insurance institutions and their associations.
- . Community based-organizations and community leaders.
- . The media.

## 5. OBJECTIVE II: INCREASING COMMUNITY-BASED ORGANIZATION PARTICIPATION

### 5.1 THE PROBLEM

A recent poverty study sponsored by USAID shows that 57 percent of Ecuador's population is considered poor and that 27 percent is living below the poverty line.<sup>2</sup>

These facts are unlikely to be reversed in the near future. Cultural patterns have traditionally constrained the assimilation of large segments of the Ecuadorean Indian population into a productive and modern society. In addition, Ecuador has experienced the strong effects of the international economic crisis which since 1981 has set back the economic growth of most of the developing world. The effects of this crisis on low-income families are tangible: as oil prices experienced a decline in Ecuador and a number of economic measures were adopted to reduce the deficit in the balance of trade, social programs were reduced. This situation has largely affected the economic growth and consolidation of low-income families.

Indicators on health and education reflect the substandard conditions of most low-income communities in Ecuador. Remoteness, difficult topography, lack of basic services, and limited acceptability by the economically dominant population have become part of a social framework which inhibits the delivery of effective public services. Infant mortality in low-income groups has been recorded as high as 95.5 per thousand live births; 82 percent of the population has never attended school; in the Andean region this percentage is sometimes as high as 92 percent.<sup>3</sup>

At the same time that low-income communities are experiencing a substantial deterioration in their quality of life, population is increasing. Both population growth and poverty are factors that irreversibly increase natural hazard vulnerability. In Ecuador, large family groups each day have less opportunity to live in a safe environment and recover from a future natural disaster.

The following table shows some of these trends:

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<sup>2</sup>Pobreza Urbana y Crecimiento Económico en el Ecuador, page 14, volume 1. The poor are defined in this study as individuals or households that do not have access -- on a sustainable basis -- to a family basket of basic food, as well as to education, physical development, employment, and social justice.

<sup>3</sup>Social Indicators of Development 1989, The World Bank.

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**POPULATION GROWTH 1950-2000**  
(in thousands)

| Regions | Census |        |        | Projections |         |         |         |
|---------|--------|--------|--------|-------------|---------|---------|---------|
|         | 1950   | 1962   | 1974   | 1982        | 1990    | 1995    | 2000    |
| Total   | 3202.8 | 4564.1 | 6521.7 | 8139.0      | 10781.5 | 12314.1 | 13939.3 |
| Andean  | 1856.4 | 2359.4 | 3146.6 | 3825.1      | 4926.8  | 5525.2  | 6132.4  |
| Coast   | 1298.5 | 2127.4 | 3179.4 | 3984.9      | 5359.7  | 6173.6  | 7039.4  |
| Amazon  | 46.5   | 74.9   | 173.5  | 263.8       | 407.3   | 513.9   | 639.6   |
| Others  | 1.3    | 2.4    | 22.2   | 65.2        | 87.7    | 101.4   | 127.9   |

**INCREASE IN POVERTY IN SELECTED CITIES**

| City       | Needs Factor | No. of Poor | % of Total Population |                |                   | Ranking |
|------------|--------------|-------------|-----------------------|----------------|-------------------|---------|
|            |              |             | Without Water         | Under Nourish. | Substand. Housing |         |
| Sto. Dgo.  | 44.86        | 54,846      | 49.7                  | 36             | 43.6              | 1       |
| Chone      | 32.19        | 22,229      | 70.5                  | 51             | 29.3              | 2       |
| Quevedo    | 37.39        | 45,904      | 62.3                  | 40             | 34.1              | 3       |
| Ambato     | 45.10        | 55,809      | 47.1                  | 53             | 38.2              | 4       |
| Riobamba   | 45.55        | 38,258      | 30.6                  | 69             | 44.3              | 5       |
| Babahoyo   | 40.94        | 23,355      | 54.7                  | 47             | 27.8              | 6       |
| Tulcán     | 55.43        | 15,608      | 28.5                  | 38             | 44.7              | 7       |
| Machala    | 51.20        | 57,802      | 40.6                  | 40             | 33.6              | 8       |
| Ibarra     | 49.35        | 26,156      | 23.6                  | 60             | 44.8              | 9       |
| Esmeraldas | 45.55        | 47,532      | 46.2                  | 44             | 29.7              | 10      |
| Loja       | 56.31        | 36,609      | 21.8                  | 42             | 44.6              | 11      |
| Cuenca     | 47.62        | 73,587      | 38.9                  | 63             | 30.2              | 12      |
| Quito      | 56.92        | 383,732     | 20.3                  | 71             | 38.3              | 13      |
| Guayaquil  | 56.98        | 521,708     | 35.1                  | 32             | 27.9              | 14      |
| Portoviejo | 52.00        | 45,906      | 37.9                  | 40             | 23.7              | 15      |
| Milagro    | 54.26        | 29,456      | 23.1                  | 33             | 28.4              | 16      |
| Manta      | 48.36        | 37,848      | 23.3                  | 68             | 26.8              | 17      |

Source: Pobreza Urbana y Crecimiento Económico en el Ecuador, pages 19 and 61.

## 5.2 STRATEGIES AND RECOMMENDATIONS

The following strategies and recommendations are directed at increasing the interventions of community-based organizations in pre- and post-disaster activities and promoting community self-reliance by increasing the knowledge base of low-income families in terms of DPM activities.

The underlying assumption of increasing community-based organization participation is that increased opportunities for community-based organizations to play a major role in pre- and post-disaster activities will be available if a) existing community organizations are strengthened through training; b) DPM activities are linked to programs that could improve the standard of living and address the basic needs of the community; and c) DPM activities can transcend the concept of physical shelter and address other related concerns, such as environmental degradation which is presently hindering development opportunities of low-income settlements.

## 5.2.1 STRENGTHENING EXISTING COMMUNITY PROGRAMS THROUGH TRAINING

### A. STRATEGY

One of the most effective ways to introduce DPM activities to low-income communities and strengthening the capacity of NGOs is through training. Within this strategy, training activities should be understood as a path to guide technology and resources to community-based organizations and to promote a constructive approach to minimize the effects of natural hazards. Such an approach should be developed to support consistent methodology, and language and cultural characteristics.

When a methodology does not succeed in taking advantage of the distinguishing cultural characteristics of the people who are targeted by it, it will fail.

The legends and myths through which communities explain the occurrence of disasters are usually considered as immutable factors that limit the effective prevention of these phenomena. Through a creative and respectful approach to these popular beliefs, however, what is commonly considered an obstacle or a constraint can be turned into a positive tool for change.

There is a legend that Sor Mariana de Jesús, a saint from Quito, prophesied that Ecuador would never be destroyed by volcanoes nor by earthquakes but rather by poor government. During the model workshop held in the community of La Lucha de los Pobres, the consultants used this legend and other fatalistic attitudes of some of the participants to demonstrate that the lack of adequate land use regulations (urbanization in high risk zones) and the absence of standards and controls that govern seismic resistant construction (lack of reinforced structures, lack of quality control for construction materials, etc.) are actions that a "good government" can undertake to reduce the harmful effects of disasters.

Most low-income communities lack technical resources. They may not be aware that technical solutions to major community problems exist; resources might not be available to obtain needed information; residents may lack access to technical experience required to select and implement the most appropriate interventions.

Existing NGOs are an effective vehicle to undertake training activities. NGOs are educational in nature. They teach through their actions in the field or through interactive programs with the community; they are typically successful in increasing local awareness on a particular subject; they have the field experience and the ability to reach target groups. Due to the diversity of their capabilities, there is an explicit opportunity to deliver community-based preparedness and mitigation in pre- and post-disaster activities.

In Ecuador, there is a wide range of community-based organizations that are playing an increasingly important role in almost all sectors of the national economy. Importantly, they are willing to work on DPM activities. (In addition to the community-based organizations discussed below, other possible NGOs in Ecuador are included in annex 2.)

As these organizations, and others, become vehicles to disseminate DPM training and information, their institutional capacity itself is strengthened by refining their agendas and improving their technical skills in subjects such as land use practices, the use of indigenous materials, sound environmental practices, among others.

One of the main objectives of a strategy is to strengthen the autonomy and capacity of the communities to respond to natural events. Communities should depend less and less on external aid for assistance in the aftermath of a disaster.

## **B. RECOMMENDATIONS**

### **o To undertake DPM training activities in the neighborhood of El Comité del Pueblo through FIAD**

FIAD is in the process of increasing its involvement in the production of housing for low-income families. As mentioned earlier, FIAD was responsible for managing and implementing a self-help project which provided potable water to the community of El Comité del Pueblo. FIAD is seeking technical assistance to develop illustrated guidelines and a book/catalogue of practical information on construction subjects.

The central intent of this recommendation is that by promoting appropriate design concepts, materials, construction techniques, codes, and standards in the traditional building process, disaster resistant houses can be delivered at economical costs. Moreover, the adoption of this strategy has the advantage of adding disaster-resistant units to the existing stock of lower and middle-income housing. In the absence of such activities, illegal and usually uncontrolled settlements require increasingly greater financial resources and efforts by the

urban poor, and result in units with short lives, and unable to resist the effects of natural disasters.

RHUDO/SA disaster initiatives might provide training support in the following areas:

- Design concepts that address the development of appropriate land use practices, housing layout, building dimensions, topology, configuration, and assembly methodology according to traditional needs and disaster-resistant techniques.
  - Construction costs, local labor issues, and the optimum use of existing resources.
  - Minimum building code requirements and standards designed for low-cost housing (standards should be viewed in terms of costs and benefits, with special attention to disaster-resistance benefits); squatter settlement upgrading issues.
  - Construction materials, including issues of appropriate building materials; the use of indigenous materials versus commercial materials (indigenous materials may have severe limitations, such as long curing times, poor weathering resistance, and low strength); cost; quality; production; construction skills; availability; and sustainability.
  - The opportunity for the commercial production of appropriate construction (this could be an income generating activity that might increase the willingness of community residents to undertake adequate hazard-resistant techniques for their own homes).
  - Maintenance. One of the factors that accelerates the deterioration of the low-income housing stock is the lack of maintenance; however, maintenance costs are generally high and unaffordable by the poor; several studies have indicated that the average annual cost of maintenance is about ten percent of the present cost of a one-bedroom unit.
  - Techniques to minimize erosion (on bare slopes, rainfall cannot be retained to soak into the soil and replenish the water table), improve the drainage system, and conserve topsoil.
- o **Federación de Cooperativas de Ahorro y Crédito (FECOAC) and DPM activities**
- More than 250 cooperatives are affiliated with FECOAC in Ecuador. It provides assistance to several Quito neighborhoods including El Comité del Pueblo.

FECOAC is developing a manual on low-cost construction techniques for application in Ecuador. FECOAC has expressed willingness to introduce DPM construction technologies into the manual. The following areas have been identified as area of interest:

- The introduction of mitigation measures as a normal element in the planning of low-income housing.
  - The provision of technical support to cooperative members for the construction of earthquake resistant homes.
  - The promotion and use of traditional materials and construction systems that are found in the locality and that can be used to strengthen or upgrade the most vulnerable components of low-income shelter.
  - The promotion of those construction techniques which will increase the efficiency of the community in post disaster recovery activities.
  - The promotion of credit programs for the strengthening of existing homes and small business establishments in high risk zones.
  - The introduction of environmentally sound programs that help to minimize the effects of natural disasters.
  - The promotion of recovery of the communities' traditional knowledge as an educational resource.
- o **Centro Médico de Orientación y Planificación Familiar (CEMOPLAF) and DPM activities**

CEMOPLAF operates through a national network of 500 representatives, nearly 20 percent of whom are from the Ecuadorean Indian population. The following areas of DPM interest have been identified:

- Introduction of the subjects of disaster preparedness and mitigation in courses for staff personnel; using extension workers to introduce disaster prevention to participant communities.
- Planning the utilization of the extensive CEMOPLAF network of 20 clinics around the country as local resources for disaster assistance, thereby benefiting participating NGOs.



## o Collaborative Efforts

There are several ongoing activities in the region that might support this project.

- UNDP in Ecuador and the Servicio Nacional de Aprendizaje (SENA) in Colombia, have designed booklets for the construction of low-cost, seismic-resistant housing. These booklets can be adapted to the specifics of each zone and community and used extensively in training activities.
- In Ecuador, the Servicio Ecuatoriano de Capacitación y Aprendizaje Popular (SECAP) provides professional training similar to that provided by SENA. Similar training is available in Chile and Bolivia.
- These kinds of organizations are members of the Uruguay-based CINTERFOR, an information network for professional training, through which LACUM could work to disseminate disaster training materials.
- Contact should be established with the Centro Interamericano de Artesanías y Artes Populares (CIDAP), a Center of OAS, in Cuenca, Ecuador, dedicated to the investigation and promotion of the culture of the peoples of the Americas in order to get support for the publication of brochures, posters and other written materials for indigenous communities.

## 5.2.2 PROMOTING COMMUNITY NEEDS

### A. STRATEGY

In most communities visited in Ecuador interest in DPM activities was most clear when an actual or threatened disaster was linked to programs that could improve the economy and living conditions of the community. Since disasters are regarded as events that might not take place within the lifetime of the residents, the strongest community concerns are linked to present needs. That said, however, the need to reduce the impacts of natural disasters in low-income communities is increasingly recognized by residents of those communities themselves.

There are a number of programs that do not have an apparent relationship to natural hazard programs but nevertheless have a direct impact on the delivery of DPM activities. For instance, for most members of the community of Cayambe major needs are related to electricity, sanitation, and road maintenance. As part of a program directed to those needs, La Casa Campesina de Cayambe is working on erosion problems on the slopes of the Cayambe volcano. The Director of La Casa de Cayambe has said that "for the peasants and the indigenous peoples, neither the past nor the future exist as realities. As a consequence, they can only be reached through their present needs."

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When implementing these types of activities in low-income communities, two issues must be considered, First, DPM programs should be initiated based on the needs of the beneficiary communities, even when in some cases, those needs have no apparent relationship to housing or to the hazard risks identified as priorities in this project (floods, earthquakes and volcanic eruptions). Second, DPM programs should yield short-term benefits, in terms of improving the quality of life of the community and its members.

## **B. RECOMMENDATIONS**

### **o To undertake DPM educational programs for children and homeowners in the neighborhood of La Lucha de los Pobres through El Comité Pro-Mejoras**

La Lucha de los Pobres is a small community located in southern Quito. El Comité Pro-Mejoras is a grassroots organization that was organized as a result of an earlier invasion of the present settlement. For more than six years it has helped numerous members of the community purchase a substantial portion of the land, legalize titles, and build their homes. Presently the United Nations Children's Education Fund (UNICEF) is sponsoring a program for the children in this community by helping poor families with food support and educational programs for the children. Leaders of this community make clear that due to the success of the UNICEF program, any program involving assistance for the children would have a positive reception within the community.

A program oriented to increase hazard awareness of the youth in La Lucha de los Pobres is appropriate. The benefits of addressing the educational needs of children can be summarized as follows:

- Topics on DPM activities will enhance children's curricula in science and social studies.
- Knowledge of DPM activities will increase children's survival opportunities in case of a natural catastrophe.
- Children will talk with their parents and relatives about concepts that they have learned during DPM training, thus turning into excellent DPM dissemination-multipliers.
- When DPM activities are delivered within a young population, there is a great opportunity to adopt mitigation measures -- over the years -- as part of the normal development process of the community: children are the future leaders and decision-makers of their communities.

The contents of a natural hazard program for the children of La Lucha de los Pobres should be fully discussed and accepted by the community before implementation.

Support material to initiate this activity is available. The Children's Television Network, is in the process of developing a complete educational series that educates children in DPM activities through their world renowned "Sesame Street" characters (see annex 3). In addition, FEMA has three publications in Spanish on the subject: "Aspectos de Seguridad en Casos de Terremotos - Actividades para Los Niños"; "Guía para Desarrollar un Programa de Seguridad en las Escuelas en Caso de Terremotos"; and "Cómo Luchar Contra las Reacciones de Los Niños a Los Terremotos y a Otros Desastres". Also, Partners of the Americas is in the process of developing training material in natural disasters for children.

In addition, La Lucha de los Pobres has a strong need for hazard-resistant housing and infrastructure. Similar training programs to the one proposed for the Comité del Pueblo should be carried out in La Lucha de los Pobres for homeowners. Special emphasis should be placed on techniques promoting the appropriate use of local materials, seismic resistant construction techniques, maintenance, repair, home improvement projects, techniques to minimize erosion, improvements in water drainage system, and conservation of topsoil.

### 5.2.3 ADDRESSING RELATED ENVIRONMENTAL CONCERNS

#### A. STRATEGY

The measures that can reduce damage from natural disasters are far more than those applied to the construction of the physical "shelter". A comprehensive strategy for the shelter sector in low-income communities should transcend the concept of "a simple physical structure" and incorporate other related development issues. In this context, one of the issues that hinders the development opportunities of low-income communities is environmental degradation.

A mainspring for economic development is technology, and while this technology offers the potential for economic growth it also entails a high risk for rapid consumption of finite resources, the creation of new forms of pollution, and the introduction of new variations that could change evolutionary pathways. At present, society has been forced to be concerned with the impacts of ecological stress -- degradations of soils, water, atmosphere, and forest - upon our economic future due to the impacts and trends of past economic development upon the environment.

In the past, urban growth, economic development, environmental preservation, and disaster management were issues neatly compartmentalized within sectors. Presently, there is an increasing awareness that these issues are intimately interrelated. Urban growth is usually

triggered by economic development in the form of factories, industries and human settlements; and this trend of urbanization without planning -- as usually undertaken in the Third World -- has serious impact on the environment. Such environmental degradation can have major consequences on the effects of natural disasters which in turn, usually retards and even destroys the benefits achieved through economic development.

Natural and environmental disasters are mutually reinforcing events. For example, the vulnerability of Ecuadorean coastal communities to the consequences of El Niño, and to seismic sea waves or tsunamis, increases considerably as a result of the destruction of mangroves which in their natural state are a protective barrier against the winds and ocean waves. The destruction of mangroves is closely linked to the massive construction of ponds for raising shrimp, an activity that has experienced substantial growth on the coast in the last decade. The consequences of this destruction will be evident after, as is forecasted, the phenomenon of El Niño occurs in a near future.

The adoption of this strategy which combines DPM and environmental activities allows RHUDO/SA to address, in an integrated way, two primary obstacles to community development. Natural disasters and environmental degradation can decimate development gains of low-income settlements. By improving the country's ability to mitigate the effects of natural disasters and environmental degradation, RHUDO/SA increases its opportunity to maximize the impact of its development programs.

In most instances the following conditions would support the incorporation of related environmental concerns within DPM activities:

- Where increased benefits from the environmental concern(s) can be shown from DPM activities without major additional funding requirements.
- Where the related environmental concern(s) are found to be mutually supportive with DPM activities.
- Where the inclusion of the environmental concern(s) can bring increased support and participation from additional funding mechanisms.
- Where the environmental concern is well acknowledged by both public and private sectors and coupling the concern with natural disasters will increase the chance of a successful implementation of DPM activities.

In most instances the following conditions would not support the incorporation of related environmental concerns within DPM activities:

- Where the environmental concern(s) is not well acknowledged and the increased awareness building would detract from and reduce the successful implementation of DPM activities.

- Where increased funding would be required for addressing the related environmental concern(s) thereby slowing or detracting from the implementation of DPM activities.
- Where the related environmental concern(s) actually are found to be mutually conflictive. In this case, both issues must be well studied to determine appropriate future activities.
- Where the inclusion of the environmental concern(s) will polarize the various participants in the DPM program and will decrease the chances of a successful implementation.

## **B. RECOMMENDATIONS**

### **o Development of Urban Forestry Techniques with Natura Foundation**

The Natura Foundation is focussed on environmental conservation; training of government personnel in charge of monitoring, management and supervision of national wilderness parks; education of the community through the media; ecology training for school teachers; and community work in "buffer zones" around national wilderness parks.

As part of this project design, a model disaster workshop was organized and carried out at the RHUDO/SA office. Participants included representatives from Natura, the Red Cross of Ecuador, FECOAC, and the FIAD Foundation as well as RHUDO/SA and Mission staff. The purpose of the workshop was to bring together interest groups that generally work independently -- environmental, disaster, and community, and test the potential benefits of such coalitions. The workshop was very well received by Natura's staff.

DPM activities should include an educational component for disaster mitigation in Natura's programs.

The following elements can be used:

- Concepts such as the environment, vulnerability, and risk during the formulation, execution and evaluation of community programs. For example, poor farming practices and land clearing for human settlements can cause irreversible harm to the quality of topsoil leading to rapid surface runoff of water that the soil can barely absorb).
- Concepts such as environmental management, ecological efficiency and profitability within the normal planning process of low-income community programs, especially in high risk areas with poor construction and high

population densities. Environmental degradation, beyond hindering economic and sustainable development, also is a triggering mechanisms that can constrain the capacity of poor settlements to improve their standard of living.

- Projects where the use of natural resources does not exceed the regenerative capacity of the environment.
- Reforestation and the protection of river basins (i.e., contamination protection at the same time that a flood control program is being implemented).
- Substitution of harmful technologies with environmentally sound practices to decrease community vulnerability.
- Ecologically appropriate livestock and crop production systems (i.e., biodigestors, protective reforestation, appropriate pesticides).

In addition a set of guidelines can be prepared on Urban Forestry Techniques (such as planting slopes with hedge grasses, gardens, or fruit trees) to prevent soil erosion, a phenomenon which often exacerbates the impacts of earthquake, floods, and landslides. In many of the communities visited in Ecuador, such programs are clearly necessary. In Quito, Ambato, Latacunga and Riobamba, substandard housing is located on the edge of deep slopes (see photos included in annex 4). An appropriate medium term activity might be to apply these guidelines in Quito, Ambato, Latacunga, and Riobamba.

When designing an environmental program linked to natural hazards, the promotion of natural resource conservation and ecological education for critical areas is essential. In this sense, several approaches should be promoted when implementing these types of activities in low-income communities:

o **LACUM Environmental Networking**

Colombia's new Ministry of Ecology will provide for permanent interaction with the government's national disaster office (Sistema Nacional para la Prevención y Atención de Desastres). Similar organizations exist throughout the region. The resources of LACUM should be utilized to develop a network of NGOs dedicated to environmental issues that might have an interest in DPM activities. The main objective of this networking is to promote the exchange of information between natural resource preservation and disaster programs within organizations operating at the community level. Areas of interest can be summarized as follows:

- Environmental deterioration in urban areas.
- Deforestation.

- Surface and underground water contamination.
- Destruction of biological diversity, particularly in tropical forests, lowlands, and coastal zones.
- Devastation of ravines and tributaries.
- Deterioration of coastal resources, particularly the shoreline, beaches, and coral reefs.
- Contamination of agricultural lands caused by the use of chemical fertilizers.
- Deterioration of the natural and cultural heritage of indigenous communities.

In addition to a network of NGOs, the following types of environmental institutions might be included: international institutions that carry out activities in the region through national groups; institutions that focus in a particular geographic area on a specific environmental topic; institutions that carry out environmental education programs, lobbying activities, and public information campaigns intended to influence government policies; institutions that represent varied environmental groups, serving as a network for or federation of such groups; and institutions that work with local and/or regional indigenous groups in economic, social, and environmental programs.

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### 5.3 SUMMARY OF COMMUNITY -BASED ORGANIZATION ACTIVITIES

Activities will be carried out in selected low-income, hazard-prone neighborhoods.

#### o PREPARATION OF MANUAL AND GUIDELINES

- o Develop a manual on mitigation techniques applicable to training activities on housing design concepts, construction techniques, costs, construction materials, home improvement techniques, repairs, maintenance, erosion and drainage improvements.

- . Coordinate the development of the manual with FIAD and La Lucha de los Pobres.
- . Deliver training to the neighborhoods of Comité del Pueblo and La Lucha de los Pobres.

- o Develop educational manuals and carry out training for the children of the neighborhood of La Lucha de los Pobres.

- . Coordinate the content with community residents.
- . Deliver training.
- . Disseminate the manual to other interest groups.

- o Develop guidelines for FECOAC on mitigation, earthquake resistance, retrofitting techniques, and issues on hazard-oriented credit programs, and environmental practices.

- . Support dissemination and training activities to FECOAC members.

- o Prepare guidelines on urban forestry techniques. These guidelines might become part of Natura training programs, and be disseminated in low-income communities already identified in Quito, Ambato, Riobamba, and Latacunga.

- . Establish coordination with Natura Foundation.
- . Establish coordination with communities.
- . Support training activities for Natura staff members in DPM issues.

#### o TRAINING

Design training activities for NGOs, homeowners, self-help builders, credit union members on disaster mitigation related issues.

- . Organize workshops.
- . Prepare brochures, posters, and other training devices.
- . Establish collaboration with UNDP, SENA, CIDAP, CINTERFOR, and LACUM to support these activities.

Prepare of DPM courses for CEMOPLAF staff.

- . Establish coordination with staff for dissemination of DPM materials.
- . Preparation of courses for CEMOPLAF staff on DPM issues.

o **LACUM ACTIVITIES**

- . Support all training and collaboration activities of this project.
- . Organize NGO environmental networking.

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## **6. OBJECTIVE III: INCREASING PRIVATE SECTOR PARTICIPATION**

### **6.1 THE PROBLEM**

The private sector -- in this case, the construction industry (builders, material producers and suppliers, architects, engineers), insurance companies, and financial institutions -- has traditionally not been involved in disaster preparation and mitigation activities. When disaster strikes, the private sector is impeded in its response by:

- the lack of necessary construction materials;
- the consequent cost increases of materials;
- procurement and contracting procedures that are slow at best;
- governments which attempt to carry out normal private sector functions such as the procurement of construction materials;
- technically unsound construction practices;
- an insurance system that simply does not cover the losses of the families most in need; and
- a financial system that is not prepared to provide credit for the rebuilding to families most in need.

In addition, the technical expertise residing in the building professions are generally not focused on natural disasters, and consequently not utilized in DPM activities such as appropriate building codes, and planning and zoning regulations.

### **6.2 STRATEGIES AND RECOMMENDATIONS**

The private sector has considerable expertise to apply to DPM activities, and indeed it is integral to the local government and community components. Public/private sector partnerships can be a positive force in developing disaster mitigation and preparedness programs. The underlying assumption of these strategies is that if a) the building professions participate in DPM activities; b) insurance mechanisms are developed for low- and middle-income communities; and c) credit is made available for post-disaster rehabilitation activities, then the special expertise of the private sector will enhance the resource base available for pre- and post-disaster activities.

## 6.2.1 PROMOTING THE PARTICIPATION OF THE BUILDING COMMUNITY

### A. STRATEGY

The building professions in Ecuador, as in the other countries in the region, are represented by the designers, developers, builders, contractors, material producers, and material suppliers who are affiliated in several different associations. Associations of the construction industry (which includes material producers and suppliers), of architects, and of engineers function at the provincial and national levels. As professional and trade associations, their primary missions are to assure compliance by their members with national laws, and to disseminate information, undertake research, and provide technical training to their members.

There are two sound reasons to include these associations of professionals in DPM programs. First, the technical subjects they do pursue in their research and training have clear application to disaster mitigation efforts, and second, their membership includes specialists in virtually any needed technical skill.

Consequently, one of the major objectives of this project is to apply the expertise of the building professions to low-income communities and local governments by assisting in mitigation measures such as sound land use planning and building standards. The construction sector should be organized that members are prepared to act immediately after a disaster to enter devastated informal sector communities to assist in an organized fashion to provide shelter after the disaster and to improve the shelter's resistance to future disasters.

### B. RECOMMENDATIONS

The following recommendations are proposed for promoting building profession participation in DPM activities:

- o **Active participation by the building professions in the preparation of municipal regulations that mitigate the effects of natural disasters**

Municipalities regulate, or have the power to regulate both, construction and where construction takes place, through the zoning and building permit process that emanates from comprehensive land use planning and building codes processes. The municipality can, for example, prohibit construction in designated flood prone areas. The municipality can establish codes and standards which serve to mitigate the structural risk in buildings. They can limit construction densities in high risk areas. The effectiveness of these ordinances can be significantly enhanced by the technical input available from professional architects and engineers; this is an example of public/private collaboration. Indeed, there is some experience in both Quito and

Guayaquil in which the respective Construction Associations have provided such technical advice to the municipalities.

- o **Applied research by the building professions in areas such as construction technology for low-income housing so that the housing will better withstand disasters**

Professional associations can build on the many studies and technical information already available about roofing materials and building reinforcement methods that can be applied to the kind of self-help housing construction that takes place daily in low-income communities. LACUM can play an important role in promoting these kinds of activities. The Fundación para el Habitat (FUNHABIT), for example, is a non-government organization whose architects have established two research centers in Ecuador (in Pujili and Guallabamba) to promote the use of appropriate materials and traditional construction technology in low-income areas. In the community of Tigua (near Salcedo in Cotopaxi Province), FUNHABIT has recently completed the first stage of a project in which 40 houses have been constructed, built to withstand earthquakes. The project was carried out with the participation of an organized community and benefitted from in-kind assistance from the municipality.

- o **Expediting the procurement and contracting of private sector services in the event of a disaster**

It is not only important that a disaster be so declared by the authorities, but it is vital that such an action permit the expeditious actions of the construction industry. It is necessary to develop standard forms for contracts, pre-negotiated between the government and the construction industry, for immediate use in an emergency. It is necessary to establish pre-negotiated procedures for the purchase of construction materials for immediate use in an emergency. And, pre-established management systems that use, for example, private architecture and engineering firms to supervise and certify work progress, and accounting firms to audit the use of funds, must be put in place. The project will work with the construction industry to develop these mechanisms.

- o **Training that raises consciousness and conveys technical information -- seminars, workshops, conferences, and the consequent technical material produced -- both by and to building professionals in fields such as, how to build with disaster recoverable building materials and construction techniques**

Technical training and workshops, as well as information dissemination to promote consciousness raising and technical mitigation measures in construction (both building materials and construction techniques), to sell the concept of public/private collaboration in a disaster, and to develop and disseminate the procedures and model contracts, should be developed, promoted, and carried out by the project.

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## 6.2.2 PROMOTING INSURANCE MECHANISMS

### A. STRATEGY

In principal, the insurance industry can play the very important role of insuring homes and infrastructure against losses caused by natural disasters. An industry operating under laws that require home and infrastructure insurance and armed with hazard assessments by locations would be in a position to assist homeowners and infrastructure companies recover their losses.

In Ecuador, the reality is quite different. No law requires a homeowner to have insurance. Higher income families frequently do carry hazard insurance on their homes; lower income families -- those whose homes are most at risk and whose greatest equity is that home -- do not carry hazard insurance.

Insurance is usually required on homes under mortgages provided by financial institutions, but such insurance is required to assure the institution that its investment retains its value. Although low-income borrowers from the Banco Ecuatoriano de la Vivienda (BEV) are required to carry mortgage insurance, the amount insured is based on the mortgage value, not the actual value of the house which presumably has increased substantially. The World Bank and IDB are currently working with the BEV so that it is sufficiently insured to cover the market value of the insured units. Laws also do not oblige infrastructure companies to carry insurance, and indeed they do not. This strategy promotes working with the insurance industry to develop a program of traditional and innovative means by which the housing investments of low- and middle-income families can be financially protected in high risk areas, and by which the providers of vital infrastructure can be protected.

### B. RECOMMENDATIONS

#### o National legislation, local ordinance enforcement, and community-wide insurance

The development and adoption of national legislation to adopt or promote disaster insurance, the adoption and enforcement of local ordinances requiring insurance and the implementation of community-wide insurance programs are all long-term activities. These actions might require several years and must be accomplished before embarking on a full plan for the adoption and implementation of such an approach. A number of intermediate steps must be accomplished before the final implementation of these recommendations.

Short-term considerations might include the following:

- The development of a national insurance plan which defines the building risks on an actuarial basis. RHUDO/SA in a joint effort with OAS might provide

technical assistance to municipalities/insurance companies for the preparation of natural risk maps. OAS is already preparing these kinds of maps throughout the Americas.

- The development of a national insurance policy based on this plan. RHUDO/SA might coordinate this activity and provide technical assistance to key public and private sector institutions for the development of these policies.
- The development of local ordinances and laws to regulate the program. RHUDO/SA might coordinate this activity and provide technical assistance to key public and private sector institutions for the development of such ordinances and laws.

Long-term considerations might include the following:

- The promotion of the participation of the commercial insurance industry through a public/private partnership which distributes the risks by spreading these risks over the entire country and throughout all building sectors including commercial, as well as low-income housing.
- The use of non-traditional insurance schemes for very low-income families, so they can be covered if their homes (or businesses) are destroyed by a disaster. This program can be accomplished by promoting community saving plans that include insurance schemes. Casualty insurance companies could, for instance, offer a program to insure earthquake-resistant construction in low- and medium-income communities. In Ecuador, the Federación Ecuatoriana de Seguros is in a position to collaborate on these issues.
- Issuing insurance by specific hazard. Eligibility for the purchase of insurance by specific hazard might be made available to those individuals whose insurable property is located within a municipality that has agreed to adopt ordinances that will mitigate the effects of a particular hazard (earthquake, volcanoes, and floods). The most effective example of this are ordinances that condition the issuance of building permits for new housing construction in areas of special flood hazard upon the requirement that the unit be constructed so that the lowest floor will be located above the base flood elevation or when building construction has complied with seismic resistance ordinances.

**o Preparing Flood Hazard Maps and Flood Insurance Rate Maps**

Eligibility for the purchase of flood insurance might be made available only to those individuals whose insurable property is located within a municipality that has agreed

to adopt ordinances that will mitigate the effects of future flooding. The most effective examples of this are ordinances that condition the issuance of building permits for new housing construction in areas of special flood hazard upon the requirement that the unit be constructed so that the lowest floor will be located above the base flood elevation. For this purpose, flood hazard maps and flood insurance rate maps would be developed and used. OAS might assist in the preparation of these maps. Even now, without such a technical base, recurring flooding risks in specific locations are well known in many local communities.

### **6.2.3 SECURING CREDIT FOR HOUSING REHABILITATION AND RECONSTRUCTION**

#### **A. STRATEGY**

One of the most serious consequences of natural disasters to low-income families is the sudden loss of their single biggest investment -- their home. That which often takes a lifetime to build, incrementally as resources are available, is suddenly gone. In the absence of an effective insurance system, and beyond whatever immediate outside help arrives, the family needs financial credit. They need loans, usually small, to buy materials in order to rebuild after a disaster.

The incorporation of DPM activities for low-income housing within the private financial sector primarily involves three activities:

- Ensuring that there is an appropriate degree of disaster resistance in all new housing construction being produced.
- Providing credit for housing improvements to increase their resistance to natural disasters.
- Providing credit for housing reconstruction or repair after a natural disaster.

However, it is extremely difficult for low-income families to secure any type of loans under normal circumstances and it becomes virtually impossible for them to obtain credit quickly under emergency conditions. These circumstances are even more severe in the case of informal housing settlements.

As part of the overall effort to increase the awareness, participation, and capabilities of the private sector in disaster mitigation, RHUDO/SA should seek to design a structure whereby credit could be channeled for rehabilitation and reconstruction to low-income families residing in informal communities affected by natural disasters. For reasons discussed below, however, this may not be an easy task, given the traditional reluctance of private sector lenders to extend credit to these household groups under any circumstances.

A structural framework to be promoted by RHUDO/SA for low-income lending should have validity as a market approach under normal conditions and could be specially mobilized in times of disaster. By necessity, the approach is highly dependent on both local government and community-based organizations to interact with the private banking sector; their role is to assist in overcoming the not inconsiderable barriers that traditionally stand in the way of low-income lending.

Constraints and barriers to low-income lending can be summarized as follows:

Throughout the developing world, institutional, legal, and regulatory barriers have inhibited both the development of private sector housing finance institutions and their willingness to lend to low-income households, particularly those in informal neighborhoods. In a market context, the foremost issue is simple affordability, but the inter-related concerns of collateral, land titling, and effective foreclosure procedures further complicate the concerns. In the end, the perceived spread that the banks insist is necessary to cover higher default probabilities and administrative burden (whether real or perceived) usually renders the cost prohibitive to small borrowers.

Ecuador is no exception. Its private banking system is a conservative one. It has no tradition of working with low-income families in poor communities and regards their business as too risky. Nor does the banking community have any tradition of facilitating credit in low-income communities on an emergency basis after a disaster.

## **B. RECOMMENDATION**

**To develop an enabling framework for the provision of housing finance from local private sector financial institutions to low-income communities following a disaster**

RHUDO/SA is well aware of the constraints that hinder the evolution of a housing finance system toward the middle and lower groups in terms of income distribution. It is, nevertheless, important to keep in mind the long-term "enabling" and structural issues while at the same time developing a short-term "break through" strategy designed for post disaster events. The following recommendations address these issues:

With regard to long-term structural issues, RHUDO/SA should assist local governments to understand the realities of the legal and financial framework in which the banks operate. What is the status of various communities regarding land ownership and titling? What is the situation regarding foreclosure within a realistic time frame (and thus the situation of the courts)?

A break through strategy should be designed to circumvent structural barriers though the combined efforts of local government and community-based groups working with

local financial institutions. NGOs can serve as intermediaries between the banks and low-income communities in a variety of ways. The basic goals can include some or all the following:

- assistance with the administrative burden in both application and collection;
- assistance in educating potential borrowers on the terms of the lending;
- assistance in setting up programs such as a save now/borrow later scheme, described below.

Local governments should determine whether NGOs have experience with on-lending programs for poor households; if none have such experience, those best able to offer the necessary administrative and financial expertise should be brought into the planning of the program.

On-lending does not necessarily have to involve NGOs. In many regards it is preferable to lend directly to the household, with the community groups acting as facilitator; this places the responsibility for repayment more clearly on the household.

Loan guarantees may or may not be part of the scheme. This decision might depend on the status of collateralization, the savings scheme noted above, and the ability of local government to provide the necessary funds. In any event, it is the commercial nature of the program that is important for both the banks and potential recipients.

Local governments might inventory local areas to assess their varying situations with regard to title and therefore collateral.

A save now/borrow later scheme involves poor households making modest but regular savings payments to the bank for an extended time period. Such programs should be set in motion as soon as possible. In this context, they would serve several purposes. The savings enhance the creditworthiness of the household and also serves as collateral against a loan. This type of program is valuable under any circumstances and could be extended in times of a disaster. (This also has the beneficial macro effect of increasing savings in the formal sector and quite possibly increasing net savings overall.)

Communities may try to introduce a market-based, home improvement credit program for low-income households. The loan amounts are small and in many circumstances, the informal dwellings are saleable, so that collateral is less of a problem. These types of programs are worthy in their own right, and could also serve as pilot programs for those desired in a disaster environment.

In concert with promoting a fully market-oriented environment, any credit extended under a disaster program must be at market rates. (Not only should interest rates not be subsidized, but rates may well rise in these circumstances as demand from

other groups increases.) If subsidization of low-income households is desired, it should be done through transparent, direct transfers.

Once the local government and the appropriate community groups have developed policies with regard to administrative procedures, repayment schemes, foreclosure issues, eligibility, and the possibility of loan guarantees, the financial community should be invited to workshops and training sessions. There are two options for introducing a post-disaster credit scheme: a) as merely a continuation/extension of schemes that are viable in a market context under any circumstance; or b) as special cases of post disaster activity. For many reasons, option a) is preferable. If, however, the circumstances with regard to income level, land titling, foreclosure, and so forth, are such that market schemes are not feasible at the present time, the special assistance to be provided by the local government and the NGOs, as far as reducing both risk and cost, should, along with appeals to humanitarian considerations, assist in reaching workable accords.

### 6.3 SUMMARY OF PRIVATE SECTOR ACTIVITIES

The private sector will participate in project implementation in the following ways:

#### o TECHNICAL ASSISTANCE

Assistance by the building professions to municipalities in the preparation of municipal regulations that mitigate the impacts of natural disasters. Such regulations include building codes, construction standards, land use ordinances.

Assistance to the construction industry and relief agencies to develop and disseminate procedures and model contracts to be activated to purchase materials and carry out relief services in the event of a disaster.

Research by the building professions in construction technology and building materials that apply in low-income communities.

Preparation of a national insurance plan, national insurance policies, and the development of local ordinances and laws to regulate the insurance sector.

Study the use of non-traditional insurance programs for very low-income families.

Assistance to municipal governments and NGOs to develop and implement a structure whereby credit could be channelled for rehabilitation and reconstruction to low-income families.

Assistance to municipal governments on promoting a fully market oriented environment for on-lending schemes after a disaster.

Assistance to municipal government and NGOs on issues such as land titling, foreclosures, and so forth in order to create a regulatory environment to facilitate credit after a disaster.

OAS might provide technical assistance to municipalities/insurance companies for the preparation of natural risk maps.

#### o POLICY DIALOGUE THROUGH TRAINING

Training, through workshops and other information dissemination programs, to the building professions and construction industry to promote mitigation measures in construction, and to promote the importance of public/private collaboration in a disaster.

The insurance industry will be engaged in dialogue with the intent of developing community-wide insurance programs; issues include affordability, the enforcement of local ordinances, and the need for national legislation.

The financial industry will be engaged in dialogue with the intent of making credit easily and quickly available to low-income families that suffer from disasters. This strategy might include the promotion of a range of locally capitalized (non USAID) housing guarantee funds; the promotion of regulatory incentives; the promotion of specially implemented low interest rates for low-income housing affected by a natural disaster; and the formation of cooperatives and business associations to share capital requirements and risks.

## PROJECT SITES, OBJECTIVES, STRATEGIES, AND RECOMMENDATIONS

| QUITO  | LATACUNGA  | RIOBAMBA   | AMBATO   |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>. Comité del Pueblo</li> <li>. La Lucha de los Pobres</li> </ul>  | <ul style="list-style-type: none"> <li>. Nueva Vida</li> <li>. Escurandia</li> </ul> | <ul style="list-style-type: none"> <li>. Santa Teresa</li> </ul> | <ul style="list-style-type: none"> <li>. Low-income communities</li> </ul> |
| <p><b>OBJECTIVES, STRATEGIES AND RECOMMENDATIONS</b></p> <p><b>OBJECTIVE I: INCREASING LOCAL GOVERNMENT PARTICIPATION</b></p> <ul style="list-style-type: none"> <li>. Incorporating DPM Activities Within the Master Plans of Municipal Governments               <ul style="list-style-type: none"> <li>- To Develop Collaborative Efforts with the Municipalities to Expand their Planning Activities to Incorporate DPM Measures</li> </ul> </li> <li>. Developing Public Private Partnerships               <ul style="list-style-type: none"> <li>- Promoting Partnerships to Increase the Adoption of Mitigation Measures within Private Sector Projects</li> <li>- Promoting Partnerships to Increase the Adoption of Mitigation Measures within Informal Sector Projects</li> <li>- Promoting Partnerships with the Media</li> </ul> </li> <li>. Delivering Training Activities               <ul style="list-style-type: none"> <li>- Mayors, Council Persons, and other Political Leaders Should be Trained to Understand the Importance of Disaster Preparedness and Mitigation</li> <li>- Staff Should be Trained in the Characteristics of Hazards and their Consequences and Severity</li> <li>- Community Outreach and Technical Staff Should be Trained in Mitigation Measures</li> <li>- Strengthening the Capacity of Municipal Planning Units</li> </ul> </li> </ul> |  |  |  |

**OBJECTIVE II: INCREASING COMMUNITY-BASED ORGANIZATION PARTICIPATION**

- . Strengthening Existing Community Programs through Training
  - To Undertake DPM Training Activities in the Neighborhood of El Comité del Pueblo through FIAD
  - Federación de Cooperativas de Ahorro y Crédito and DPM Activities
  - Centro Médico de Orientación y Planificación Familiar and DPM Activities
  - Collaborative Efforts
- . Promoting Community Needs
  - To Undertake DPM Educational Programs for Children and Homeowners in the Neighborhood of La Lucha de Los Pobres through El Comité-Pro Mejoras
- . Addressing Related Environmental Concerns
  - Development of Urban Forestry Techniques with Natura Foundation
  - LACUM Environmental Networking

**OBJECTIVE III: INCREASING PRIVATE SECTOR PARTICIPATION**

- . Promoting the Participation of the Building Community
  - Active Participation by the Building Professions in the Preparation of Municipal Regulations that Mitigate the Effects of Natural Disasters
  - Applied Research by the Building Professions in Areas Such as Construction Technology for Low-Income Housing so that the Housing Will Better Withstand Disasters
  - Expediting the Procurement and Contracting of Private Sector Services in the Event of a Disaster
  - Training that raises consciousness and conveys technical information -- Seminars, Workshops, Conferences, and the Consequent Technical Material Produced -- Both by and to Building Professionals in fields such as how to build with disaster recoverable building materials and construction techniques
- . Promoting the Use of Insurance Mechanisms
  - National Legislation, Local Ordinance Enforcement, and Community-Wide Insurance
  - Preparing Flood Hazard Maps and Flood Insurance Rate Maps
- . Securing Credit for Housing Rehabilitation and Reconstruction
  - To develop an enabling framework for the provision of housing finance from local private sector financial institutions to low-income communities following a disaster

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**PART III: PROJECT IMPLEMENTATION**

## 7. MANAGEMENT PLAN

### 7.1 BASIC STRUCTURE

The project will be implemented by a structure that integrates and applies the resources of international, regional, national, and local institutions. The strategies will be achieved by activities that focus resources on municipal governments, the private sector, and low-income communities. The experience and lessons learned will be continuously shared through several dissemination means with neighboring communities, cities, and other countries. RHUDO/SA's management of the project's basic elements may be summarized as follows:

- o The project will be coordinated by a regional disaster advisor with management responsibilities for the entire project.
- o In order to benefit from the available international expertise, three types of international institutions will be contracted to provide technical assistance in the following:
  - municipal government,
  - community development, and
  - the private sector.
- o At the regional level, the project will utilize
  - the institutional network and training program of the Latin American Center for Urban Management (LACUM), RHUDO/SA's principal regional policy promotor, and
  - other well-qualified regional expertise.
- o At the national level, the project will utilize the expertise of
  - non-governmental organizations,
  - professional and trade associations, and
  - national advisors within USAID Missions.
- o Counterpart agencies in Ecuador, and ultimately in other countries, will provide National Coordinators.
- o The project will coordinate and collaborate with the several international donors and national agencies with specific disaster programs or development programs with disaster components.

## 7.2 RESPONSIBILITIES AND LEVEL OF EFFORT

### 7.2.1 REGIONAL ADVISOR

Over the three year life of the project, the primary responsibility of the Regional DPM Advisor is to manage the project, assuring the coordination among all project actors, and providing technical direction and oversight on all project activities. As the initial project focus will be in Ecuador, the Regional Advisor will devote most of the attention there. The Regional Advisor will:

- Establish and maintain continuing personal contact throughout South America with USAID Mission management, with OFDA in Washington, as well as represent USAID with top public policy makers, and influential private sector and community leaders in areas and professions relevant to DPM activities;
- Manage, evaluate, provide direction, and otherwise assist each of the project components undertaken by other contractors;
- Manage the design and implementation, in coordination with LACUM, of the DPM national and regional training activities aimed at USAID and host country public and private officials and community leaders;
- Draft policy and procedural statements that reflect the lessons learned in the pilot projects and how they may be applied in other locations;
- Advise RHUDO/SA and USAID Mission officials on how to integrate DPM planning into long-term USAID urban shelter policy objectives, with emphasis on the needs of the urban informal sector and the functions of municipal governments; and
- Prepare semi-annual reports of project activities and expenditures, and prepare a qualitative and quantitative final report that reflects the project's progress toward achieving its goals and objectives, and recommendations for future projects.

The Regional Advisor should have a degree in urban planning, architecture, engineering, or other appropriate field, and graduate level training in a similar technical field. The Advisor should have several years of experience in disaster mitigation activities, shelter and infrastructure provision, municipal government, and community development and have experience working with USAID or similar development agencies. Due to the need to operate in the field with USAID and host-country counterparts, fluency in both English and Spanish is required. The Regional Advisor must have the ability to work with high-level national and local officials, private sector representatives, NGOs and the community level. The Advisor will be supervised by the Director, RHUDO/SA, but will be expected to establish project work plans, to take an aggressive leadership role in the project, to exercise considerable judgement, and to maintain a confident presence.

## 7.2.2 INTERNATIONAL, REGIONAL, AND LOCAL RESOURCES

The DPM strategies have three components, each of which will be addressed by contracted international organizations with expertise in the following:

- o **Municipal Government**

A regional or international institution or firm will be contracted to plan and provide technical assistance and training directly to local governments in analytic studies to determine local hazard conditions and urban land use planning and controls.

- o **Community Development**

A regional or international institution or firm will be contracted to plan and provide technical assistance and training directly to community-based organizations. Working with local NGOs, the firm will develop training materials (including children's educational programs) for disaster mitigation, environmental awareness, construction and land development.

- o **Private Sector**

A regional or local institution, such as trade or professional associations, will be contracted to plan and provide technical assistance and training directly to municipal governments and community-based organizations. Under the direction of the Regional Advisor, this expertise will be directed to building technology, construction materials, land use standards, and building codes. Other regional or local organizations and individuals will have major roles and responsibilities during the implementation of the project.

The following regional and local resources will be utilized during the program:

- o **OFDA/Washington**

OFDA/Washington is the lead U.S. federal agency for responding to disasters abroad. This office coordinates U.S. federal assistance with that of international agencies, other donor governments, and private and voluntary organizations.

For FY 1992-1996 OFDA has developed a strategy which responds to the threat disasters pose to people and development goals and programs, with special emphasis on the protection of USAID investments. Within this strategy OFDA aims to strengthen linkages with the rest of USAID agencies to ensure more complementary and efficient use of PMP resources in relation to USAID programs in various economic sectors.

Illustrative of such closer cooperation is the formal understanding reached between OFDA and USAID Office of Housing and Urban Programs in February 1990. Under this agreement the following activities are relevant to RHUDO/SA DPM activities.

- OFDA objectives in shelter mitigation are to be incorporated into RHUDO training workshops for USAID Missions, governments, non-governmental organizations and private building trades.
- RHUDO will work with USAID Missions and government institutions on a regular basis to insure that shelter/urban development strategies in host countries adequately address disaster vulnerability concerns.
- OFDA will fund suitable RHUDO initiatives in PMP related activities.

USAID's Office of Housing and Urban Programs addresses the shelter and urbanization needs inherent in fostering increased development in the poorer countries of the world. Implementing this strategy will both benefit USAID's Office of Housing and OFDA, since closer integration will increase development efforts of both agencies in developing countries.

o **OFDA-San José**

The main responsibility of OFDA-San José, an extension of OFDA/Washington, is to provide technical support for OFDA projects in Latin America and the Caribbean. In terms of this RHUDO/SA initiative, OFDA-San José can serve as the liaison between RHUDO/SA and OFDA/Washington and act as a problem solving mechanism upon request in the areas related to DPM activities.

o **USAID Missions**

Although it is unlikely that Mission's will assign DPM responsibilities to a staff officer, it is expected that Missions will consider DPM to be a priority activity. As such, Mission's would address DPM in a proper fashion, calling upon the Regional Disaster Advisor to assist them in understanding disaster risks, mitigation efforts, and opportunities for integration of DPM activities in Mission programs.

o **National Coordinator Counterparts**

National Counterparts will work closely with USAID Mission Advisors on natural disaster mitigation activities. National Counterparts (in the case of Ecuador, from institutions such as the AME and other community based organizations) will have access to and call on a variety of institutions to collaborate on the project. DPM programs directed to mitigate the impacts of disasters on the Ecuadorean housing stock, lifelines, etc., are more productively served by RHUDO not only directly collaborating with AME as the counterpart coordinator, but as well collaborating

with municipalities, the private sector, and other community-based organizations such as FIAD and Fundación Natura.

o **LACUM**

Much of RHUDO/SA's training and technical assistance is conceived and carried out by the Latin American Center for Urban Management (LACUM). LACUM will play an important role in this program by working closely with the Regional Advisor to identify and develop relationships with local NGOs and local governments; to assist in the planning and implementation of workshops, seminars, and other appropriate training events; and to assist in the dissemination of publications appropriate to the target audiences of community residents and local governments. LACUM will also be the means by which the program will be introduced and promoted elsewhere in the region. The actual development and production of the publications and management of the workshops would be provided by a qualified consultant contracted and managed by the Regional Disaster Advisor working in concert with LACUM. LACUM will also be the means by which the program will be introduced and promoted elsewhere in the region. LACUM's role in the project is reflected in the chart on the following page.

### **7.3 PROJECT CONSISTENCY WITH USAID PLANS**

This project reflects RHUDO/SA regional and national strategies, OFDA's global mission, and the Latin American and Caribbean Bureau's (LAC) objectives.

#### **7.3.1 RHUDO/SA STRATEGY**

RHUDO/SA's recently approved program (August 1991 Program Review) clearly provides the context of disaster DPM activities. Disaster mitigation and the urban environment represent one of the five interrelated areas of RHUDO/SA attention. With urban management as the unifying theme, RHUDO's goal is to define the most effective role for the public and private sector in providing for the needs of the urban poor. Building local capacity and public and private participation is important for the preparation and mitigation against the effects of disaster such as earthquakes and floods. In addition, the RHUDO/SA is developing a Democratic Initiative Project, which will promote attention to local governments by international institutions. The DPM project will interact with that project; indeed, the DPM project focus on municipal governments strongly supports the Democratic Initiative Project.

## LACUM'S ROLE IN DPM ACTIVITIES

|                | INSTITUTIONS  | THEMES/ROLES  | ACTIVITIES   |
|----------------|---|---|--|
| Municipal      | International Associations<br>Regional Association<br>Government                          | <ul style="list-style-type: none"> <li>. Disaster Preparedness and Mitigation</li> <li>. Urban Environmental Preservation</li> <li>. Urban Standard and Regulations</li> <li>. Incorporation in Municipal Planning</li> </ul>                               | <ul style="list-style-type: none"> <li>. Research</li> <li>. Case Studies</li> <li>. Publications</li> <li>. Training</li> <li>. Technical Assistance</li> </ul> |
| Community      | International Organizations<br>Local NGOs<br>Community Organizations                      | <ul style="list-style-type: none"> <li>. Disaster Preparedness and Mitigation</li> <li>. Urban Environmental Preparation</li> <li>. Urban Standards and Regulations</li> <li>. Incorporation in Community Planning</li> </ul>                               | <ul style="list-style-type: none"> <li>. Research</li> <li>. Case Studies</li> <li>. Publications</li> <li>. Training</li> <li>. Technical Assistance</li> </ul> |
| Private Sector | International Technical Assistance<br>National Private Sector Groups<br>Private Companies | <ul style="list-style-type: none"> <li>. Disaster Preparedness and Mitigation</li> <li>. Urban Environmental Preservation</li> <li>. Urban Standards and Regulations</li> <li>. Incorporation into public service companies and private industry</li> </ul> | <ul style="list-style-type: none"> <li>. Research</li> <li>. Case Studies</li> <li>. Publications</li> <li>. Training</li> <li>. Technical Assistance</li> </ul> |

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### 7.3.2 OFDA'S MISSION

"The OFDA Program in disaster prevention, mitigation and preparedness seeks to stimulate new and innovative approaches to reducing the impacts of disasters on potential victims and economic assets in highly disaster-prone target countries throughout the world. The program's primary goal is saving lives and reducing suffering caused by a natural and man-caused hazards; a second goal is to reduce the economic and social impacts caused by disasters in developing countries."

The link between disaster mitigation efforts and "traditional" development efforts has been increasingly recognized. The same rationale for assisting municipal governments develop land planning regulations -- for infrastructure planning, for the separation of incompatible land uses, for the minimization of damage brought on by floods, for example -- suggests that mitigation measures in the face of known and expected disasters are also warranted. By focusing on local government responsibilities, community preparedness, and private sector involvement, this project effectively brings DPM activities into development approaches to urban management, to community participation, and to private sector collaboration with local governments.

### 7.3.3 LAC BUREAU OBJECTIVES

This project specifically supports one of the three LAC Bureau objectives and is consistent with the other two. One objective is to "respond to needs for international cooperation in addressing specific challenges to the attainment of broadly-based, sustainable economic growth ...". This project supports U.S. initiatives that benefit from USAID resources and expertise in relief from natural disasters and contributes to the formulation and implementation of U.S. Government strategies for dealing with environmental degradation.

Broadly based, sustainable growth is impeded by the consequences of natural disasters, witness the dire effects of the 1987 earthquake on Ecuador's economy. At the urban community level, the loss of lives, homes, and economic productivity as a result of a disaster deny the opportunity for sustainable growth. To the extent that DPM activities preserve a functioning community, without draining national resources for reconstruction, those activities indeed address sustainable growth issues.

The LAC Bureau seeks to "encourage accelerated opportunities for increased participation in the economy by the historically disadvantaged." In undertaking DPM activities, this project will improve access to adequate shelter and related basic services (both built and provided with considerations to the risks of disasters) in low-income communities.

The LAC Bureau encourages the preservation and sustainable use of the natural resource base. It suggests the need for a strong public and private institutional capacity for environmental protection and natural resources management and the sustainable management of forests, watersheds, coastal zones, and other areas highly vulnerable to

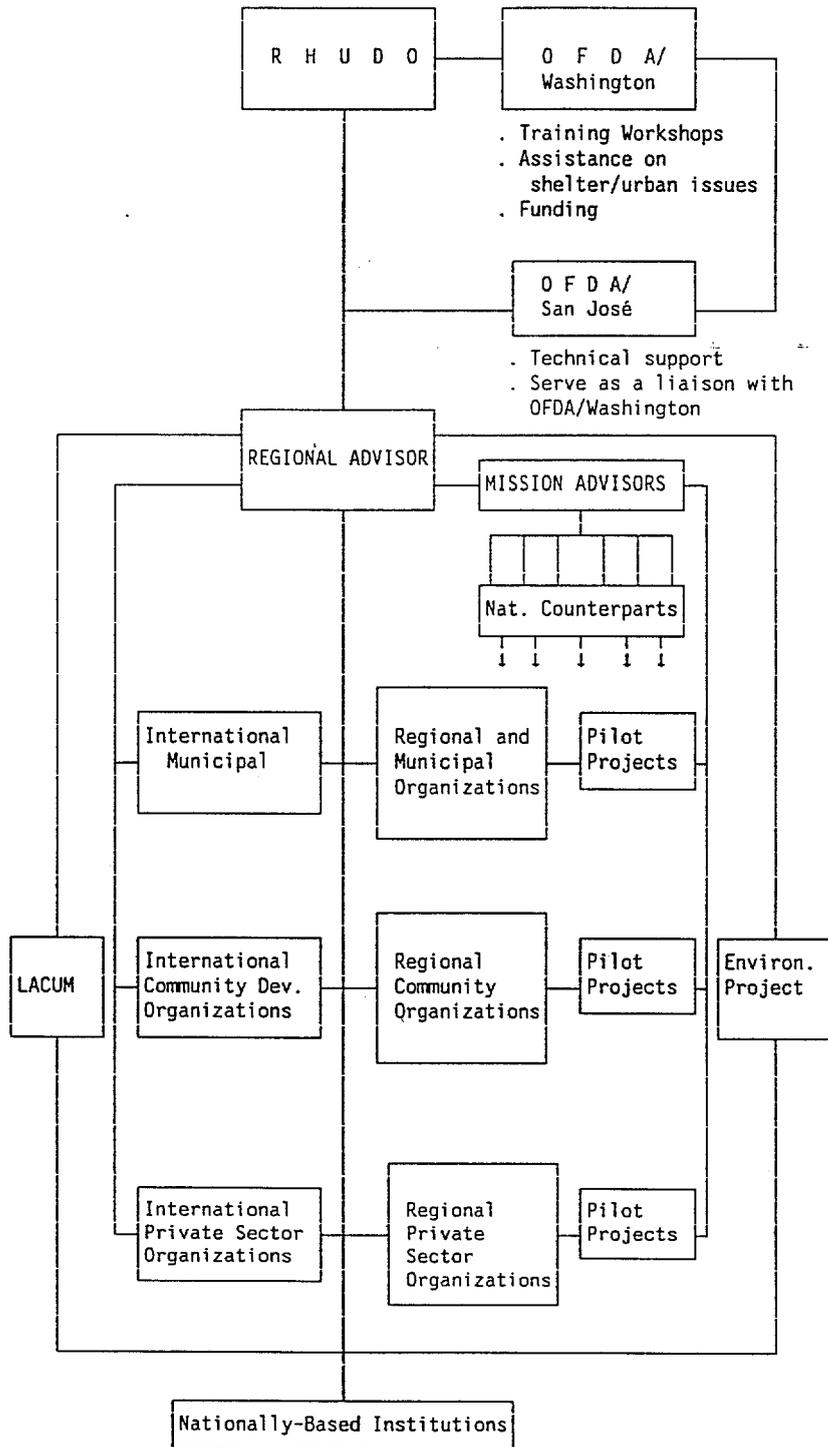
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deterioration. The relationship between environmental degradation and disaster mitigation has been well established; Quito's tree planting program, for example, serves to prevent erosion, in turn mitigating against rapid storm water runoff and consequent urban flooding. Last but not least, this project supports the LAC Bureau's encouragement of the "delegation to ... local authorities of power to make decisions having primarily ... local effect."

The following charts summarize important organization and management responsibilities within this project.

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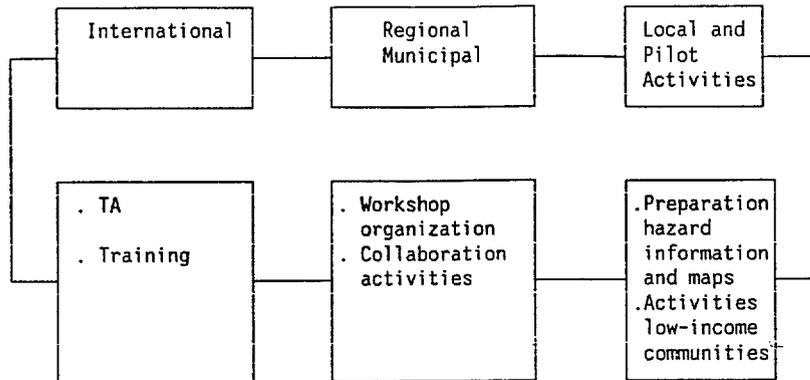
# PROGRAM MANAGEMENT AND ORGANIZATION



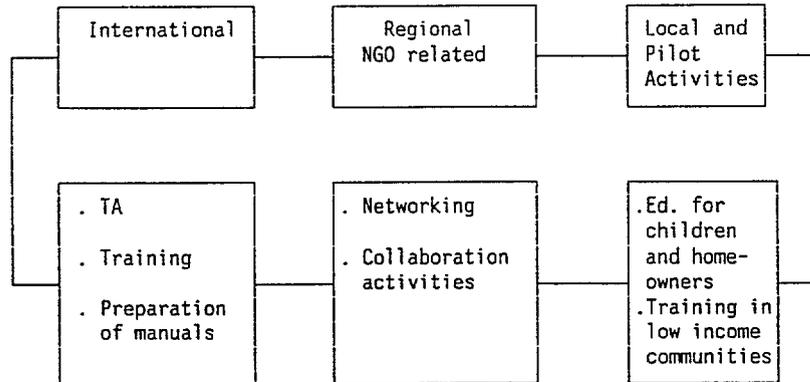
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## SUMMARY OF RESPONSIBILITIES AND ACTIVITIES

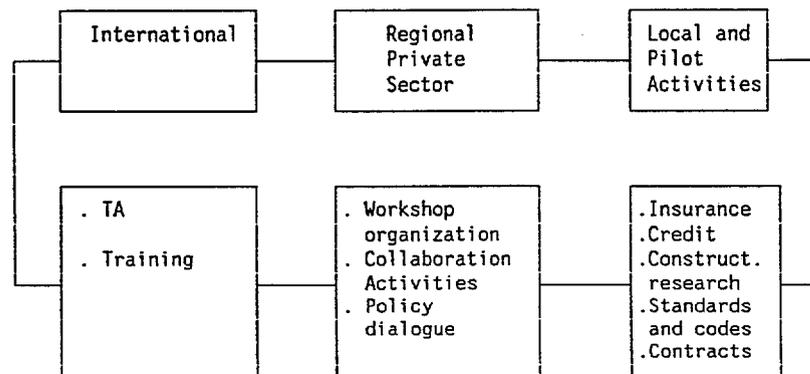
### MUNICIPAL GOVERNMENT



### COMMUNITY-BASED ORGANIZATIONS



### PRIVATE SECTOR



### MATRIX OF RESPONSIBILITIES AND ACTIVITIES

| RESPONSIBLE             | TECHNICAL ASSISTANCE | MANUAL PREPARATION | TRAINING PREPARATION | TRAINING DELIVERY | WORKSHOP PREPAR. | COLLABOR. ACTIVITIES | POLICY DIALOGUE | PILOT PROJECTS |
|-------------------------|----------------------|--------------------|----------------------|-------------------|------------------|----------------------|-----------------|----------------|
| International Municipal | ●                    |                    | ●                    | ●                 |                  |                      |                 | ●              |
| Regional municipal      |                      |                    | ●                    | ●                 | ●                | ●                    | ●               | ●              |
| Local municipal         |                      |                    |                      |                   | ●                |                      | ●               | ●              |
| Int. NGO related        | ●                    | ●                  | ●                    | ●                 | ●                | ●                    |                 | ●              |
| Reg. NGO related        |                      |                    |                      | ●                 | ●                |                      |                 | ●              |
| Local NGO               |                      |                    |                      |                   | ●                |                      | ●               | ●              |
| Int. private sector     | ●                    |                    |                      |                   |                  |                      |                 |                |
| Regional private sector | ●                    |                    | ●                    | ●                 | ●                | ●                    | ●               |                |
| Local private sector    | ●                    |                    | ●                    | ●                 | ●                | ●                    | ●               |                |
| LACUM                   |                      |                    | ●                    | ●                 | ●                | ●                    | ●               |                |
| Regional Advisor        |                      |                    | ●                    |                   | ●                |                      | ●               | ●              |
| Other support instit.   | ●                    | ●                  |                      | ●                 |                  | ●                    | ●               | ●              |

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## 8. ACTION PLAN

The proposed DPM project concept will first be applied in Ecuador as a pilot effort. Then the concept will be adapted for future application in other RHUDO/SA countries.

The Action Plan proposes activities in this pilot project to be planned and initiated by the Regional Advisor with support from contracted institutions, LACUM, and the RHUDO/SA itself. The first task is the recruitment, selection, and placement in Ecuador of a Regional Adviser to lead and manage the project. The Regional Advisor's action plan comprises activities to be carried out in the first six months, in the subsequent eighteen months, and in the third and final year.

### 8.1 SHORT-TERM ACTIVITIES (FIRST SIX MONTHS).

To initiate the Program in Ecuador, the following activities are proposed:

- Prepare a detailed work plan that reflects institutional and individual responsibilities and resource requirements on a quarterly basis. The work plan should indicate the sequence of necessary events, including the timely scheduling of national and local training events. Once approved by the RHUDO/SA, the work plan will require regular updating.
- Prepare terms of reference (tasks, qualifications, experience) for the USAID/Ecuador Disaster Advisor.
- Select an Ecuadorean National Counterpart to coordinate activities with Ecuador institutions. Since the National Counterpart will be financed by the Government of Ecuador (GOE), it will be important for the Regional Advisor to work closely with the government to assure RHUDO/SA's interests are met; if possible, the GOE should submit at least three candidates to be considered by the RHUDO/SA office.
- Conduct a one-week workshop with the Regional Adviser, National Counterparts, contracted institutions, USAID/Ecuador representative, LACUM, and OFDA representatives for the purpose of explaining and discussing the Program strategy and plans and to determine the means for the most effective participation. Also, provide for the determination of training needs in Ecuador and the agreement on the location of the pilot projects.
- Gain knowledge of the institutional structure of Ecuador in disaster preparedness and mitigation. Identification of and initial contact with the organizations, institutions, and networks through which the Program will be carried out.
- Make initial contacts with Ecuadorean institutions and communities to promote the strategies and market the project.

## 8.2 MEDIUM-TERM ACTIVITIES (SIX TO EIGHTEEN MONTHS).

Once the staff and institutions are operational, the Regional Advisor will undertake the following tasks:

- Establish and maintain continuing relations with the contracted organizations, GOE disaster personnel, USAID/Ecuador, OFDA in Washington, Ecuadorean NGOs and communities, and the Ecuador private sector;
- Manage, evaluate, provide direction, and otherwise assist each of the project components undertaken by the contracted organizations and LACUM; technical assistance must be designed according to specific objectives in the context of the project, the intended recipient institution, the methodology, the expected results, and the appropriate contractor institution.
- Manage the design and implementation, in coordination with LACUM, of the DPM training activities aimed at Ecuadorean public and private officials and community leaders and residents; training events must be designed according to specific objectives in the context of this project, the intended audience and material to be conveyed, the size, duration, and location of the event, the training material, and the training faculty.
- Analyze the institutional structure of each country in terms of disaster preparedness and assistance; identify and contact the organizations, institutions, and networks to carry out the Program; conduct workshops for the purpose of explaining the methodology, and determine the most effective means of institutional participation; determine the training needs of each country; and identify a pilot project in each country.
- Provide RHUDO/SA management with analyses of the project's policy and operational issues, its applicability in other locations, and the extent to which DPM planning can be integrated into other USAID sectors beyond that of urban and shelter policy objectives.
- Solicit, guide, and manage the preparation by contracted organizations of regular reports of project activities and expenditures.
- Design and manage a mid-term evaluation.
- Broaden the project to include other countries.

### 8.3 LONG-TERM ACTIVITIES (THIRD YEAR).

The third year activities will focus on establishing institutional relationships in other countries, in order to plan and carry out similar activities as those implemented in Ecuador:

- Reformulate the strategies and activities based on the evaluation results.
- Select a National Counterpart in each of the other participating countries.
- Contact individual governments for the promotion of the strategies and marketing of the project.
- Conduct a one-week program with the Regional Adviser, contracted organizations, National Counterparts, LACUM, OFDA in participating countries for the purpose of explaining and discussing the DPM project strategies and activities.
- Design and manage the final project evaluation.
- Prepare a qualitative and quantitative final report that reflects the project's progress toward achieving its goal and objectives, and recommendations for use and application in future projects.

## 9. EVALUATION PLAN

### 9.1 EVALUATION APPROACH

Project activities will be evaluated mid-way through implementation. The evaluation will look for changes in disaster preparedness and mitigation policies and programs experienced by institutions, organizations and networks participating in the program. The evaluation will analyze policy changes and broadened DPM activities of municipal governments and private sector institutions, and the impact of those changes on low-income communities.

Training materials will be analyzed for their acceptance by communities, the breadth of their coverage, and their use and application in the communities.

In the pilot projects, the evaluation will not only look at the measurable objectives, but also evaluate the non-tangible goals which are of no less importance: change of attitude of the community toward disaster mitigation and preparedness, the environment and its resources, and knowledge of disaster risks and vulnerabilities.

If, during the program implementation, a natural disaster occurs and affects the target communities, studies will be undertaken to provide detailed documentation of the impact of the program on the communities, organizations, institutions and networks, as well as upon USAID and RHUDO/SA themselves.

### 9.2 PROGRESS INDICATORS

It is expected that this program will result in the preservation of low-cost housing stock after a disaster, in lives saved, in reduced human suffering, and in the protection of the local economy. Localized results will be evident in the event a serious natural disaster strikes the targeted communities. Although those results cannot be measured against the consequences of a similar natural disaster in a similar community, there are a number of events and changes that will indicate successful program implementation. Some indicators can be readily measures as activities take place; others however require an investment in resources to be able to set

up an information system and subsequently collect the necessary data. Among the readily judged indicators are the following:

- The adoption by four Ecuadorean municipal governments of ordinances, codes, and land use regulations that reflect vulnerability and/or risk studies and natural hazard awareness, as well as minimal standards for the informal sector.
- The preparation of documentary material about natural hazards and hazard assessment maps in at least two communities.

- The contribution by the construction industry and the building professions in the preparation of municipal codes and standards.
- The development and publication of model legislation, regulations, contracts, and procedures to permit expeditious involvement of the construction industry; the formal approval in at least one country of such laws and procedures.
- The support to this project by at least two nationally-based international institutions.
- The preparation of sets of guidelines that promote design concepts, materials, techniques, and standards for disaster-resistant housing.
- A public information campaign initiated by the national media.
- The initiation of meetings and information exchanges with the insurance industry and finance system.
- Increased LACUM attention to DPM by its assistance to the Regional Disaster Advisor and contractors responsible for the design and implementation of workshops by providing access to LACUM's Institutional Network of NGOs to identify participants for disaster/environmental activities and other LACUM activities.
- The preparation of DPM materials by the participating NGOs.

The establishment of an information system necessary to track other important data requires additional DPM project effort. Indicators for which such a system is required include the following:

- The exposure to the basic concept of public/private collaboration and the model laws and procedures of at least 1,000 private builders and national and local government officials from throughout the region.
- The number of DPM workshops, or other training activities, carried out at the Junta and Parochial level.
- The inclusion of ten CEMOPLAF clinics in the country's preparedness network.
- The training in each participating city of the mayor, two administrative staff, and two planning personnel in disaster policy, municipal administration, and mitigation measures applied to planning.
- The initiation of workshops and mechanisms in each participating city to facilitate and utilize private sector and community resources in DPM activities.
- The training of at least 1000 children in DPM awareness.

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- The training of at least 2000 homeowners in housing construction mitigation measures.
- The number of housing units built or reinforced to disaster resistant standards.
- The number of implemented environmental conservation projects with a DPM linkage (e.g., tree planting projects).
- The development and use of incentives by municipalities to encourage disaster mitigation measures in private sector projects and informal sector construction.

### 9.3 MEASUREMENT METHODOLOGIES

There are a number of possible ways to measure the project's achievements. The applicability of each particular technique will, of course, depend on the nature of the activity implemented. The evaluation will analyze progress based on interviews with project management and communities, on measurements of progress, and a review of training (courses, workshops, conferences, meetings, etc.) and technical assistance.

Mitigation improvements will be measured by:

- before-and-after studies
- visual observation
- urban forestry techniques and erosion projects

Tangible benefits will be measured by:

- visual observation
- opinion surveys
- counts (units with improved materials or construction)

Increased awareness and understanding will be measured by:

- surveys
- observation of participatory activities

Sustainability will be measured by:

- assessment of community capabilities and motivation
- evaluation of progress made during life of project
- analysis of constraints

**ANNEX 2: List of Selected Non-Government Organizations in Ecuador**

## ENTIDADES DEDICADAS AL DESARROLLO COMUNITARIO EN QUITO

Se encuentran clasificadas en las áreas de salud, educación e infancia y las más importantes son las siguientes:

### SALUD

1. Asociación Cristiana de Jóvenes (ACJ o YMCA), Carrión 1155 y 10 de Agosto, Casilla 117, Telf: 566-082  
Representante: Raúl Vásquez, Presidente  
Objetivos: Apoyo a organizaciones populares, sector pobre y que no haya lucha de clases  
Mantiene convenios con la UNESCO
2. Ayuda en Acción, 9 de Octubre No. 518 y Ramón Roca, Casilla No. 769 A, Telf: 547-682 y 529-934  
Representante: Fernando Paéz, Director Ejecutivo  
Objetivos: Mejorar niveles en comunidades de Cayambe, Cuenca, San Antonio, San Jacinto y Sucúa  
Desarrollan su acción en salud, nutrición, educación, capacitación, producción agropecuaria y comercialización  
Mantiene convenios con España e Inglaterra
3. Centro Andino de Acción Popular, (CAAP), Diego M. de Utreras No. 733 y Selva Alegre, Apartado 173-B  
Representante: Francisco Rhon Dávila, Presidente  
Objetivos: Desarrollar programas en las áreas de Cayambe, Cotacachi, Cotopaxi y Otavalo. Elaborar estudios y asesoría técnica, educación para la salud.  
Convenios con el BID Y EL SEBEMO (Irlanda)
4. Care Internacional, Berlín 180 (entre Eloy Alfaro y 9 de Octubre), Apartado 2097, Telf: 236-734, 563-935  
Representante: Dr. Raúl Cadena González  
Objetivos: Apoyar naciones en desarrollo de Africa, Asia, América Latina y el Caribe.  
Capacitación comunitaria, asesoría, coordinación y financiación, realizar microempresas productivas, salud primaria, conservación de suelos, huertos familiares, agua potable y letrinización.  
Convenios internacionales, cooperación externa, un porcentaje de aporte gubernamental por parte de algunos países.
5. Centro Ecuatoriano para la promoción y Acción de la Mujer (CEPAM), Los Rios No. 2238 y Gándara, Casilla 182-C, Sucursal 15, Telf: 230-844  
Representante: Miryam Garces de Porras, Coordinador Ejecutiva  
Objetivos: desarrollo movimiento femenino, participación activa y de la conciencia de mujeres, mecanismos de solidaridad entre las mujeres, nivel local, nacional e internacional.  
Opta por trabajar con mujeres de sectores populares en salud organizativa, relaciones familiares, desarrollo infantil y técnica, asesoría jurídica, hospedería, centro de documentación e información.

Organización sin fines de lucro y privada, adquirió la Casa de la Mujer con donación del gobierno sueco y realiza proyectos autofinanciados.

6. Centro del Muchacho Trabajador, Jose Nogales s/n (Cotacollao), Telf: 539-081, 539-199  
Representante: Padre Juan Halligan  
Objetivos: incentivar a familias pobres su autogestión y superación.  
Formación personal, familia, religión, instrucción,  
economía, trabajo, recreo, salud y vivienda.  
Donaciones, 10% venta de productos y aportes de la Fundación KELLOS.
7. Centro de Estudios y Asesoría en Salud (CEAS), Roca 549, Dpto., 502,  
Telf: 562-674.  
Representante: Dr. Jaime Breilh  
Objetivos: áreas de investigación de campo, asesoría, docencia,  
publicaciones, capacitación y difusión.  
Se financia al efectuar proyectos de investigación, servicios y  
publicaciones.
8. Conferencia Episcopal Ecuatoriana, Av. América 1805 y La Gasca, Casilla  
1801, Telf: 553-567, 238-221  
Representante: Rodrigo Maldonado, Director Nacional Pastoral de Salud  
Objetivos: capacitación, investigación, educación y asesoría  
Fondos de la iglesia y algún apoyo de UNICEF
9. Club Rotario Quito, Portoviejo No. 442 y Versalles, Telf: 524-556  
Representante: Dr. Fausto Dueñas, Presidente  
Objetivos: lucha contra la polio y financiamiento para combatir la  
malaria, educación con becas, capacitación  
Donaciones voluntarias y rifas.
10. Cruz Roja Ecuatoriana, Av. Colombia y Elizalde, Telf: 210-561  
Representante: Dr. Hugo Merino  
Objetivos: Servicios Médicos y de bienestar social  
Donaciones
11. Cuerpo de Paz, Av. 6 de Diciembre No. 2269 y Colón, Casilla 635-A,  
Telf: 561-224, 561-225  
Representante: Peter N. Stevens  
Objetivos: Educación preventiva para la salud, educación no formal y  
prácticas de extensión, sistemas de agua, sanidad ambiental, manejo de  
agua, letrinas y huertos familiares.  
Aporte gubernamental de Estados Unidos y Cooperación externa.
12. Fondo Ecuatoriano Populorum Progressio (FEPP), Mallorca 427 y Coruña,  
Casilla 5202, Telf: 550-705, 529-372  
Representante: José Tonello  
Objetivos: Desarrollo de campesinos de Cuenca, Esmeraldas, Guaranda, Lago  
Agrio y Riobamba; construcciones comunales, agua potable y  
riego; grupos de eclesiásticos y seculares.  
Fondos de Instituciones Amigas.
13. MAP Internacional, Calama 265 y Reina Victoria, Casilla 8184,  
Telf: 569-942  
Representante: Dr. Christian Aponte

Oficina Regional para América Latina: Av. América 4569 y Mañosca,  
Casilla 8184, Telf: 456-454

Representante: Gregory Rake

Objetivos: salud integral de los más empobrecidos, apoyar y facilitar un taller sobre desarrollo comunitario, entrenamiento de líderes comunitarios, programa de agua y saneamiento ambiental en la zona urbana de Solanda y rural, servicio de consultoría.

Es una corporación cristiana sin fines de lucro cuya base esta en Estados Unidos.

14. Plan Internacional, Hugo Moncayo y Gregorio Munga Esquina, Casilla 6374-CCI, Telf: 441-496

Representante: Andy Rubi

Objetivos: asistencia en materia de desarrollo a niños necesitados, sus familias y sus comunidades en 25 países por intermedio de 74 oficinas locales. Educación para la salud, medicina preventiva, programas de agua potable.

Donaciones de Alemania, Australia, Bélgica, Canadá, Japón, Holanda, Reino Unido y Estados Unidos. Convenio internacionales con UNICEF, promover adopción.

15. Visión Mundial Internacional del Ecuador, Ulloa 3077 y Abelardo Moncayo, Telf: 441-519

Representante: José Guzmán

Objetivos: ayuda a gente pobre, a personas que sufren como consecuencia de guerras o desastres naturales, mejora viviendas y capacitación, evangelización.

Es una organización cristiana humanitaria no gubernamental. Se financia con donaciones, trabaja en cooperación de UNICEF, OMS y Help the Children Fund.

16. Fundación Eugenio Espejo (FEE), Juan León Mera 433 y Robles, Telf: 542-358, 542-495

Representante: Dr. Ramiro Echeverría

Objetivos: fomentar, financiar y auspiciar programas de educación e investigación sobre la realidad ecuatoriana, comunicación popular.

17. Fundación Nuestros Jóvenes (FNJ), Inglaterra 566 y Vancouver, Casilla 268. Telf: 567-017, 567-695

Representante: Silvia Barragan de Laufer

Objetivos: educación preventiva, difusión, asesoría y tratamiento para personas con problemas de drogas.

Fondos de Cooperación Externa, donaciones y venta de productos hechos por FNJ. Convenio con BID, AID, Comunidad Económica Europea.

18. Fundación Brethen & Unidas (F.B.U.), Av. América 2137 y Sosaya, Casilla 455, Telf: 541-235, 541-303

Representante: Lic. Wagner Molina

Objetivos: elevar las condiciones de comunidades campesinas más deprimidas, educadores populares de salud en Quinde-Esmeraldas, desarrollo agrícola en Imbabura, Tabacundo.

Donaciones de organizaciones evangélicas protestantes.

19. Fundación para la ayuda a los enfermos del corazón (Fundación Corazón)  
Hospital Metropolitano, Consultorio 33, Av. Mariana de Jesús  
Telf: 436-078, 431-520  
Representante: Dr. Rafael Arcos  
Objetivos: prestar atención al menor cardiópata y cooperación con la prevención, servicio de cardiología y cirugía cardíaca del Hospital Municipal San José. Los pacientes reciben la ayuda y no pagan nada. Fondos propios y del programa TELEBINGO.
20. Fundación Hermano Miguel (FHM), Saa No. 118 y Sodiro, Ed. Daniel Cadena  
Of. 608, Telf: 553-124, 545-165  
Representante: María E. Paredes de Suárez, Presidenta  
Objetivos: apoyar a los minusválidos
21. Fundación Friedrich Ebert - ILDIS, Av. Colón 1346, Edificio Torres de la Colón, Mezzanine Of. 12, Apartado 367-A, Telf: 562-103, 563-604  
Representante: Dr. Reinhart Wettmann  
Objetivos: Desarrollo de países subdesarrollados por medio de investigaciones y consultorías.  
Aportes gubernamental de Alemania e ingresos propios.
22. HCJB, Hoy Cristo Jesús Bendice, Hospital Vozandes de Quito, Villalengua 267, Casilla 695, Telf: 241-540  
Representante: Dr. Swanson - Director Médico  
Dr. Gary Gardeen - Administrador  
Objetivos: Hospital en áreas cirugía, pediatría, ginecología, obstetricia y optalmología. Hospital en Shell-Pastaza. Educación para salud en comunidad rural y ayuda profesional personal del campo.  
Tiene la base en Estados Unidos y mantiene convenios con USAID, Naciones Unidas y MAP Internacional, Compassion International.

#### EDUCACIÓN

1. Centro de Educación Popular (CEDEP), La Isla 416 y Cuba, Apartado Postal 8013, Telf: 550-498, 237-622  
Representante: Eco. Diego Landázuri, Director  
Objetivos: dar instrumentos de apoyo para fortalecer el desarrollo del movimiento popular. Asistencia técnica, investigación académica, acción. Educación, comunicación.  
Fundación.
2. Centro de Investigaciones CIUDAD, La Gasca 326 y Carvajal, Apartado Postal 8311, Telf: 230-192, 549-221  
Representante: Arq. Jorge García, Director  
Objetivos: promover, desarrollar, colaborar en investigación, capacitación, asesoría técnica, difusión, documentación sobre realidad ecuatoriana, en lo urbano, lo regional, la problemática arquitectónica; la comunicación sector informal, poder local, movimientos sociales; la educación popular, la política y la economía.  
  
Biblioteca: 4.000 libros, 10.000 documentos, 50 revistas, 50 boletines, 100 mapas, 100 cassettes.  
Centro de investigación.

3. Centro de Estudios y Difusión Social (CEDIS), Alejandro de Valdez 252 y La Gasca, Apartado Postal 1708 - 8013, Telf: 234-152  
Representante: Ecom. Cecilia Viteri  
Objetivos: desarrollo y educación de organizaciones populares, videos sobre levantamiento indígena.

Publicaciones semanal "Puntos de Vista"

4. Centro de Planificación y Estudios Sociales (CEPLAES), Av. de Los Shyris 247 y Eloy Alfaro, Apartado Postal 6127 CCI, Telf: 553-146  
Representante: Sr. Francisco Carrión, Director  
Objetivos: investigar en ciencias sociales, ofrecer asistencia técnica y capacitación en estudios sociales y planificación, apoyar técnicamente a programas de acción con sectores populares, urbanos y rurales, publicar y difundir información en ciencias sociales.

Temática: organización popular, modelos alternativos de desarrollo, procesos agrarios, políticos, económicos, empleo rural, urbano, pesca, artesanal, mujer, movimientos sociales.

Fundación privada sin fines de lucro.

5. Corporación Ecuatoriana para el Desarrollo de la Comunicación (CEDECO), Alejandro de Valdez 252 y La Gasca, Apartado Postal 1708 -8013, Telf: 234-152  
Representante: Sr. Dennis García, Director  
Objetivos: apoyar a organizaciones populares en la educación popular en zonas rurales, desarrollar metodologías y técnicas de educación.  
Investigación, acción, difusión, asesoría, comunicación.

Es una Corporación.

6. Centro de Investigaciones y Estudios Socio Económicos (CIESE), Pasaje Luis Martínez y 6 de Diciembre, Apartado Postal 161, Suc. 12 de Octubre, Telf: 234-924  
Representante: Lic. Julio Echeverría, Director  
Objetivos: investigar en ciencias sociales, capacitar a organizaciones populares, publicar y difundir resultados, publicación y difusión.  
Temática: urbano, regional, política, estado, agro, educación alternativa, demografía.

Es una fundación independiente.

7. Instituto de Estudios de la Familia (IER), Centro de Investigación y Apoyo de la Mujer (CIAM), 10 de Agosto y Arenas, Ed. Vivanco, 4to. Piso, Of. n.º 403, Telf: 550-801.  
Representante: Lic. Dolores Padilla  
Objetivos: estudiar los problemas de la familia, promocionar una forma de vida independiente, asesoría, comunicación.  
Temática: movimiento femenino, familiar, historia.

Instituto independiente.

8. La Asociación Latinoamericana de Asesoramiento y Pastoral Familiar (EIRENE), Av. América 4569 y Mañosca, Casilla 85-86, Telf: 455-770  
Representante: Dr. Marcos Maldonado, Coordinador  
Objetivos: profesionales cristianos que trabajan por el desarrollo, fortalecimiento y defensa de la salud integral de la familia en América Latina. Entrenan y certifican facilitadores, asesores y terapeutas familiares, formación de centros de orientación, asesoramiento y terapia de la familia en distintos lugares del continente, estudiar los factores que intervienen en la conformación y desarrollo (o estancamiento y deterioro) de las familias en América Latina, publicar materiales sobre educación y la psicoterapia familiares y que orienten a la iglesia y a la comunidad en su trabajo con familias.

Es una asociación latinoamericana sin fines de lucro, compuesta por un Coordinador y la Junta Directiva.

9. Centro de Documentación e información de los movimientos sociales del Ecuador (CEDIME), Junín 574 y Jiménez, Apartado Postal 18-C, Sucursal 15, Telf: 212-211  
Representante: Glora Campos, Coordinadora General  
Objetivos: investigar la realidad nacional y difundir los resultados de educación popular, intercambio interinstitucional, educación bilingüe, formal y no formal.

Este Centro esta conformado igual que el anterior.

La Mayoría de estos organismos de educación están conformadas por un Directorio y Comisiones Técnicas.

No se pudo conocer formas de financiamiento en este tipo de entidades.

#### INFANCIA

1. Fundación Chicos de la Calle, González Suárez 598, Telf: 551-732.  
Representante: Dr. Santiago Carrasco Toral  
Objetivos: capacitación y formación integral del niño de la calle.
2. Acción Guambas, Don Bosco y Ríos, Colegio Don Bosco, La Tola, Apartado Postal 35, Telf: 560-489  
Representante: Padre Marcos Paredes  
Objetivos: mejorar condiciones de vida de los niños y niñas que trabajan en la calle combinando elementos no convencionales (la calle) y convencionales (San Patricio internado).

Mantiene dos albergues: Mi Caleta (50 niños) y El Sotano (20 niños).

Es una obra de la Iglesia, Sociedad Saleciana de San Juan Bosco.

3. Centro Juvenil San Patricio, Hacienda Yaupi, Cumbaya, Apartado Postal 2303, Telf: 355-786  
Representante: Padre Antonio Amador  
Objetivos: capacitación laboral y orientación vocacional, apoyo legal y reinserción legal, salud atención primaria, nutrición, albergue, alimentación, recreación, reeducación, observación, protección.

4. Fundación General Ecuatoriana (FED), Pablo Suárez 110 y Eloy Alfaro,  
Telf: 230-057  
Representante: Eduardo Serrano, Teresa de Canón  
Objetivos: capacitación laboral, artística y artesanal de jóvenes con  
retardo mental.

Organización de beneficio social.

5. Defensa de los Niños Internacional (DNI), Sección Ecuador, Pinto 521 y  
Amazonas, Edif. Varig - Sto. Piso, P.O. Box 17-07-9234 - Sucursal 7,  
Telf: 561-946, 529-813.  
Representante: Lic. Ernesto Delgado, Presidente  
Objetivos: investigación y diagnóstico sobre la realidad del niño de la  
calle, abusado sexualmente, trabajador y maltrato, difusión masiva en el  
área de la ciudad. Programa de Casas Refugio para niños.
6. Programa del Muchacho Trabajador, Banco Central del Ecuador, Av. 10 de  
Agosto 251, Telf: 516-648  
Representante: Dolores Padilla  
Objetivos: mejorar las condiciones de vida de niños y jóvenes que se  
encuentran en alta situación de riesgo, programas de salud.

También se incluye el organismo que se encuentra descrito en el campo de  
salud: Centro del Muchacho Trabajador.

No se pudo recopilar información sobre su organización y financiamiento.

#### FEDERACIONES BARRIALES

1. Federación de Barrios del Sur Occidente, Ciudadela Hermano Miguel.  
Representante: Hugo Chango  
Se reúnen los sábados en el Barrio Jesús del Gran Poder
2. Federación de Barrios del Sur Oriente, Sector de TANASA.  
Representante: Luis Llerena  
Se reúnen los miércoles en el Barrio Yerba Buena 1
3. Comité Parroquial de Chillogallo, Chillogallo
4. Federación de Barrios Populares Noroccidente de Quito, Flavio Alfaro  
y Martín Ocho, Lote 80, Apartado Postal 7462, Telf: 535-520  
Representante: Salomón Mosquera

**ANNEX 3: Children's Television Workshop: Executive Summary**

Children's Television Workshop

NATURAL DISASTERS EDUCATION IN LATIN AMERICA:

A preparedness and safety campaign for children.

EXECUTIVE SUMMARY

## EXECUTIVE SUMMARY

Following completion of an eight-month research and development phase, the Office of U.S. Foreign Disaster Assistance (OFDA) has agreed to fund Phase II of the Natural Disasters Education in Latin America project. Plans for Phase II include development and production of a multimedia campaign, utilizing television radio and print, that will familiarize children in Ecuador with ways to stay safe during and after an earthquake. Supportive of existing programs, the objective of this campaign is to help children, from the ages of 8 to 12, to prepare for earthquakes by teaching safety information and facts. Given the success of this campaign, which will be completed in fifteen months, we expect to receive further funding from OFDA for Phase III which will include design, production and implementation of similar campaigns in the remaining OFDA priority countries (Costa Rica, Guatemala, Honduras and Peru).

One of the primary goals of initial research was to establish campaign objectives. These were discussed with Latin American disaster experts at a seminar in Costa Rica, and it was agreed that the primary considerations are:

- To show children and their families ways to stay safe during and after natural disasters;

- To help them prepare for natural disasters;
- To raise their awareness of the threat, and
- To familiarize them with local emergency commissions.

All advisors agreed that the technical aspects of disaster mitigation should not be a part of the campaign. Having reached this consensus, we decided that the approach should be to deliver simple, clear, straightforward safety-messages and facts.

Research has shown that single-focussed programs are far more effective than those that cover multiple subjects; for this reason, we decided to concentrate on one hazard. We then concluded that the focus should be on earthquakes, primarily because discussions at the seminar yielded them as the overriding priority in three of the five target countries.

Our strategy for Phase II is to begin production, implementation and testing of television, radio and school materials in one country, Ecuador. At this time, assumptions, drawn from information gathered during the initial research and development phase, will be tested by means of workshops, a needs assessment and a media habits survey. A summative evaluation (funded by OFDA) will test whether project

objectives were achieved; it will be an integral component of the overall project from the beginning. Pending results of the evaluation, Phase III (subject to further OFDA funding) would begin in Costa Rica, Guatemala, Honduras and Peru. Throughout this project, CTW will work closely with local advisors, educators, writers and producers to ensure that campaign components address specific needs of the target countries.

**ANNEX 5: Bibliography**

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Comité del Pueblo, Historia de una Gran Conquista, Comité Pro-Agua Potable y Progreso Comunitario, Quito, 1990.

Civil Defense, Erupciones del Tungurahua, Partners of the Americas, Quito 1990.

Civil Defense, La Defensa Civil por Dentro, Quito, 1988.

Civil Defense, Las Erupciones del Cotopaxi, Partners of Americas, Quito, 1990.

Civil Defense, Los Desastres Naturales, La Prevención y la Protección, Quito, 1990.

Civil Defense, Plan Nacional de Defensa Civil, Secretaría General del Consejo de Seguridad Nacional, Quito, 1980.

Civil Defense, Reglamento General de la Ley de Seguridad Nacional, Decreto Supremo No. 913-F, Secretaría General del Consejo de Seguridad Nacional, Quito, 1976.

IULA/CELCADEL, An Answer for Latin America, Quito, 1987.

IULA/CELCADEL, Latin American Municipalities: One Factor in Regional Development, Quito, 1989.

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Partners of the Americas, Esquema del Módulo de Preparación para Emergencias para el Programa de Combate a la Pobreza Extrema, Quito, 1991.

Partners of the Americas, Major Natural Hazard Risks in Ecuador, Quito.

Partners of the Americas, Partners of the Americas' Emergency Preparedness Program to Aid Ecuador's Civil Defense, Washington, D.C., 1991.

RHUDO/SA, Program Review, Quito, 1991.

Urbana Consultores Cia. Ltda., Pobreza Urbana y Crecimiento Económico en el Ecuador, I Fase: Estudio a Nivel Nacional, II Fase: Estudio de Casos en Machala y Riobamba, RHUDO/SA, Quito, 1991.

USAID, Mission Disaster Relief Plan, Quito, 1989.

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USAID, Policy Paper, International Disaster Assistance, Washington, D.C., 1985.

Arcia, Gustavo, Gonzalo Bustamante, and José Paguay, Urbiquito Población y Medio Ambiente, Municipio de Quito, Quito, 1991.

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United Nations, Vol. 3, Administración de los Asentamientos, UNDRO, Geneva, 1976.

United Nations, Vol. 5, Compendio de los Conocimientos Actuales, UNDRO, Geneva, 1977.

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Wilches-Chaux, Gustavo, Desastres, Ecologismo y Formación Profesional, Servicio Nacional de Aprendizaje, Popayán, 1989.

**ANNEX 6: List of Interviews**

Lic. Jaime Acosta Velasco  
General Manger  
Banco del Pichincha  
Quito

Ing. Julio Alvarez  
Manager  
Empresa de Alcantarillado  
Quito

Ing. Homero Alvear Cruz  
President  
Cámara de la Construcción  
Quito

Pablo Andrade  
Fondo de Interés Social  
Quito

María del Carmen Arangua  
Banco Ecuatoriano de Desarrollo Económico  
Quito

Arq. Fabian Arias F,  
Director of Planning Department  
Municipality of Ambato

Daniel Arteaga  
Red Cross  
Quito

Sra. Mercedes de Bajaña  
Deputy Manager  
Amazonas de Seguros  
Quito

Don Hernando Barsallo  
Comité Pro Mejoras  
Quito

Ing. Mario Semiglia Cabrera  
Vice President  
Colegio de Ingeneiros Civiles  
Guayaquil

Abt Associates

RHUDO/SA DPM Initiative

Ing. José Chacón Toral

Director

Cámara de la Construcción

Quito

Yolanda Dubois

Program Officer

United Nations Development Programme

Quito

Lic. Angel Escobar Paredes

Presidente of the

Municipality of Otavalo

Ing. Rafael Estrada Velásquez

President

Colegio de Ingenieros Civiles

Guayaquil

Arq. Guido Flores

Secretary General

FUNHABIT

Quito

Ing. Hermel Flores Maldonado

President of Continuing Education Committee

Colegio de Ingenieros Civiles

Pichincha

Crnel. Federico G. Hernández

Acting Director

National Civil Defense

Quito

Arq. José Jaramillo

CONADE

Quito

Father Javier

Director of

Casa Campesina de Cayambe

Abt Associates

RHUDO/SA DPM Initiative

Marcos Jiménez  
Concejal  
Riobamba

Don Jorge  
Comité Pro Mejoras  
Quito

Mauricio León  
Red Cross  
Quito

Lic. José Mancero Logroño  
Mayor of Riobamba

Arq. Segundo Martínez Aranda  
President  
Colegio de Arquitectos  
Guayaquil

Arq. Rosanna Martínez  
Director of Planning Department  
Latacunga

Arq. Patricio Mena Durini  
President  
Banco Ecuatoriano de la Vivienda  
Junta Nacional de la Vivienda  
Quito

Ricardo Mena Speck  
Assistant Director  
Partners of the Americas  
Quito

Lic. Carlos E. Morán T.  
Director of Technical Assistance  
FECOAC  
Quito

Arq. Rubén Moreira V.  
President, Colegio de Arquitectos  
Quayaquil

Abt Associates

RHUDO/SA DPM Initiative

Arq. Luis Rosendo Moreno  
Director of the Planning Department  
Reiobamba

Ing. Fernando Moya Espín  
Fundación Investigación-Acción  
para el Desarrollo (FIAD)  
Quito

Dr. Tomás Nieto  
Banco Ecuatoriano de la Vivienda  
Quito

Dr. Diego Peña  
Director AME  
Quito

Arq. Guillermo Pérez Díaz  
Director of the Planning Department  
Municipality of Quito

Ing. Jorge Poveda  
Technical Officer  
Empresa de Alcantarillado  
Quito

Father Juan Pozo  
Cayambe

Luciano M. Ramos  
President  
Partners of the Americas  
Ambato

Fabricio Recalde  
Red Cross  
Quito

Ing. Carlos Repetto Carrillo  
Board Member  
Cámara de la Construcción  
Guayaquil

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RHUDO/SA DPM Initiative

Ruth Elena Ruíz  
Director NATURA  
Quito

Ing. Rodrigo Salvador  
Technical Director  
Empresa de Agua Potable  
Quito

Ing. Edgar Santos  
Technical Director  
Empresa Eléctrica  
Quito

Dr. Jaime Torres  
General Secretariat  
UILA  
Quito

Ing. Hernán Uscocovich Guerrero  
Secretary  
Colegio de Ingenieros Civiles  
Guayaquil

Lic. Teresa de Vargas  
Director CEMOPLAF  
Quito

Lic. Segundo Velásquez  
Commisary of Cayambe  
member of Frente Civico  
and the Civil Defense  
Cayambe



U.S. AGENCY FOR  
INTERNATIONAL  
DEVELOPMENT

Appendix 2

February 6, 1992

## MEMORANDUM

TO: See Distribution

FROM: Gudrun Huden OFDA/PMP and Larry Birch PRE/H *GH* *LB*

SUBJECT: INTRODUCING A DISASTER PREPAREDNESS AND MITIGATION  
PROJECT IN SOUTH AMERICA: A RHUDO/SA INITIATIVE  
-- Abt Associates

In general, the project is well conceived and addresses the issues which are fundamental to the approach that OFDA plans to address in its PMP strategy. The document makes important linkages between mitigation and preparedness and brings together those elements of the society, local government, local communities and the private sector, which are crucial to achieving PMP objectives.

The Abt paper was discussed by OFDA and PRE/H staff at AID/W January 21. The following summarizes issues raised. These comments should be used for the development of the final actionable document which should include the specifics of planning, designing and implementation including selection of a contract vehicle or vehicles.

### Beneficiaries

The paper only gives minimal indication of the number of beneficiaries. Who are they, population groups, companies, government institutions? How many people or institutions are likely to benefit from the project in each site in Ecuador (a range in each will suffice), as well as a range of beneficiaries in the other countries to be selected.

### Choice of Ecuador for Pilot Activity

Further elaboration (page 2, end of para 1.4) will be useful to indicate the technical and programmatic reasons and other criteria for selection of specific sites and communities within Ecuador. Given the substantial other OFDA-supported PMP activities in Ecuador the document should provide adequate detail on how the activity will relate to the Children's Television Workshop, Partners of the Americas and UNDRO activities already underway.

It would also be helpful to elaborate extended term activities (page 69-70) in a way that shows the process of transition from six months to medium and long term, including country and site selection, budgetary concerns and issues of transferability of Ecuadorean pilot activities. It is understood that this information will become less precise as the time horizon increases, but it is important to describe the process and criteria by which the project will evolve. Who will decide and when? What are the preconceptions about potential project opportunities?

### Measurement

Related to beneficiaries is the issue of measurement. The project evaluation section indicates that an evaluation system will be set up to obtain data which will be used to monitor and evaluate project progress. Most of the progress indicators are intermediate measures and do not convey the final outcome that we seek. This section needs more work to provide a better sense of the outcomes we seek for the project.

To be consistent with other shelter-related PMP activities, it is suggested that three levels of project implementation and evaluation criteria be developed with appropriate benchmarks presented on a time line:

- (a) direct project outputs (such as training programs held);
- (b) intermediate program impacts (such as policy changes or procedures;
- (c) direct beneficiary impact (a measure related to the ultimate goal of the PMP commitment: saving of lives and protection of productive assets).

These categories are waypoints on a continuous scale of outputs and impacts. Do not feel constrained to neatly categorize the project's benchmarks. The overall intent is to demonstrate and measure the connection between what you do and the overall goals of the project and more generally the goals of the RHUDO and PMP.

We recognize that the final impact of these investments can be demonstrated only over a long time period. The benchmarks, therefore, should be realistic in defining what is achievable in the short, medium and long term. Practical expectations are in order. It should be kept in mind, however, that some of the policymakers who are overseeing this activity are not willing to wait 10 years to see results.

It is also suggested that the budgetary requirements of dependable measurement be reviewed and allowances made accordingly; it is not expected to be cheap.

### Coordination

As it is stated that the short-term activity is a pilot activity, it is vital for replicability to other situations that coordination be a major focus. It is suggested that structural processes be put into place which will insure that to the greatest degree possible all

program activities be understood by all current and future actors. Specifically, an instrument such as the development of a subcommittee under the RHUDO's Latin American Network is needed to provide for such coordination. Coordination should be planned:

- o with other RHUDO activities;
- o with OFDA and other regional OFDA activities;
- o with Mission(s);
- o with other donors;
- o with related indigenous institutions.

Since the key to replicability lies in the generalizations that can be made from the lessons learned with the pilot effort, coordination at all possible points is essential.

It is also essential that the lessons learned in the South America project be accessible to the work in the Caribbean and Asia. For this reason it is suggested that regular (quarterly) reporting and coordination be maintained with OFDA and PRE/H in Washington. Regional reports will be communicated to the other RHUDOs and OFDA Regional Advisors as well as to other institutions working on related activities. In addition, it is suggested that the project implementation team also communicate directly with other PRE/H or OFDA offices as necessary, especially the Regional Office in San Jose.

### Training

A much more detailed description of the process and methodology that will be utilized for training is required. It is accepted that assessments may be needed before it can be determined that a particular group needs a particular type of training; however, no training system or process is outlined. Long- and short-term training plans should be developed for each of the three tracks with evaluation components. Under first six month activities, the training should be articulated and spelled out in much more detail on how the training elements of each of the tracks will be developed and what the plans will include, including who will be in charge of implementation of the training. It may be beneficial to hold a planning workshop at the start of the project to set training policy and guidelines for the program. Participants could include RHUDO, OFDA/W, PRE/H and OFDA/LAC advisors.

### Objective II: Increasing Community-Based Organization Participation

It is suggested that the following three components constitute this objective:

- (a) training and institutional strengthening to integrate PMP concerns into community based organizations, at the national and grassroots level;
- (b) community based organizations to carry-out/implement/integrate PMP activities at the community level;
- (c) development of an NGO network dedicated to environmental issues.

For (a), if NGOs are to successfully integrate PMP concerns into their programming it requires more than training. It entails a change in their program design process and procedures, and it is likely they would need TA as well as training in order to do this. Integration of PMP concerns into their organizational policy, structure and programming should be the aim, not just training. This should be well articulated in the document in terms of objectives, activities, level of resources.

For (b), this could be done along the lines of the OFDA Famine Mitigation Program. The project could make funds available to NGOs working in limited sectors - environment, health, shelter, small enterprise. Funds could be allocated to do actual projects or to do hazard and risk assessment feasibility studies to incorporate PMP into new or existing programs. We could follow the pre-proposal concept currently being used in the Famine Mitigation Program. PVOs could receive funds based on the submission of pre-proposals for funding for projects - as is described in the document. However, funds could be available to a broader spectrum of agencies than those identified in the document, and there would be some set criteria for eligibility, i.e. if agencies had not participated in (a) and needed to do so, that would be a requirement.

For (c) Addressing Environmental Concerns, what is the character of the institution under LACUM which would take advantage and perhaps expand the outreach of the Regional Network? Can it include the informal sector institutions? It is suggested that the proposed network, p 39, be the main project activity not guidelines on Urban Forestry Techniques.

#### Budget

As the activities of this project become more carefully described, the budgetary information should become more specific. Lacking more specific information at this stage, it is felt that the budget may underestimate the cost of technical assistance especially in support of Objective II. There is a need for better prototype budgets for the other country activities in the medium term. Also, as previously discussed, the cost of the regional advisor must be removed from this project and become the subject of a separate request. This is due to the structure of the OFDA budget.

#### Editorial Comment

For consistency with other projects and documentation Disaster Prevention and Mitigation (DPM) should be changed to Disaster Prevention, Mitigation and Preparedness (PMP).

#### Schedule

The next step in the review process is to discuss the project with field missions and with the LAC Bureau. We would like to complete this review by February 21. We feel that

the RHUDO should manage the review process and decide who and how. OFDA PMP and PRE/H will assist in dealing with the Bureau in any capacity requested by the RHUDO. We will also present the project to OFDA senior management.

Following the mission/bureau review a new action document will be created based on the decision on the contracting mechanism(s) chosen. The new document, which should include these as well as mission and bureau comments, will be presented to the OFDA Director for signature. If requested by RHUDO, OFDA-PRE/H will provide contractor support to develop the action document. It is assumed that the final approval and other mission and bureau clearances will be received by March 13.

Depending on the type of contract mechanism chosen, the project could start as early as April 3. Please note that the Contracts Office has set a March 30 deadline for the initiation of new competitive contracts in Washington.

Distribution:

D/PRE/H, P. Kimun  
PRE/H, F. Hansen  
A-DD/PRE/H, D. Leibson  
PRE/H, S. Giddings  
Chief RHUDO/SA, W. Yeager  
PRE/H, K. Delaney  
D/FHA/OFDA, J. Kunder  
AA/FHA, A. Natsios  
FHA/OFDA, B. Heyman  
FHA/OFDA, J. Burke  
OFDA/LAC, P. Bell  
Abt Assoc., J. Miller  
Abt Assoc., M. Nanita-Kennett

PROJECT DESIGN SUMMARY  
LOGICAL FRAMEWORK

Life of Project:  
From FY 92 To FY 94  
Total US Funding: \$2.5 Million  
Date Prepared: Feb. 14, 1992

Project Title and Number: South America Disaster Prevention, Mitigation, and Preparedness (PMP) Project

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| NARRATIVE SUMMARY   | OBJECTIVELY VERIFIABLE INDICATORS  | MEANS OF VERIFICATION   | IMPORTANT ASSUMPTIONS   |
|---|--|---|---|
| <p>Program or Sector Goal: The broader objective to which this project contributes: To reduce the impact -loss of lives, damage to housing, and lifelines- and disruption to economic and social development of natural disasters in low-income communities.</p> <p>Project Purpose:</p> <p>To increase local government participation in disaster PMP programs by: (a) including within normal planning processes actions to mitigate and prevent natural disasters; (b) promoting involvement of other economic sectors; and (c) undertaking training and TA activities directed to staff and the community to enable them to be better able to respond to natural hazards.</p> | <p>Measures of Goal Achievement: Review of numbers of persons and target groups actually benefitting from PMP training and T.A. and numbers of homes and lifelines facilities retrofitted and/or rebuilt as a result of newly offered PMP assistance from municipalities, community-based organizations, or the private sector financed by this project.</p> <p>Conditions that will indicate purpose has been achieved: End of project status.</p> <p>The adoption by at least six municipalities in the region of ordinances, codes, and regulations to mitigate and prevent construction on hazard-prone sites.</p> <p>Preparation of documentary material about natural hazards and hazard assessment maps for at least two communities by methodologies usable throughout the region.</p> | <p>Mid-term and final project evaluations which will compare annual work plan objectives established by institutional contract project manager for activities to be carried out in countries with achievement of actual activities implemented and sampling of beneficiaries assessments of training, TA, and support actually provided and received.</p> <p>Review ordinances, codes, regulations adopted by municipalities served by project assistance.</p> <p>Review of documentary material prepared and mapping actually completed.</p> | <p>Assumptions for achieving goal targets: RHUDO/SA was able to secure AID Mission agreement to implement full range of disaster PMP project activities in a target country.</p> <p>Proposed project beneficiaries were receptive to disaster PMP assistance offered and fully collaborated with the implementation of specific assistance activities.</p> <p>Full OFDA funding required to implement each year's complement of programmed PMP project interventions was available.</p> <p>Technical expertise required to provide full range of PMP project training, TA, and policy dialogue support was readily available.</p> <p>Local governments offered project assistance are receptive to receiving it and follow through with assistance recommendations.</p> <p>Local governments offered project assistance are receptive to receiving it and follow through with assistance recommendations.</p> |

| NARRATIVE SUMMARY   | OBJECTIVELY VERIFIABLE INDICATORS  | MEANS OF VERIFICATION  | IMPORTANT ASSUMPTIONS   |
|---|--|--|---|
| <p>To increase the participation of community-based organizations in disaster PMP programs to increase the coverage of project activities among low-income segments of the population not assimilated in mainstream society.</p> <p>To increase the participation of the private sector in disaster PMP programs by bringing to bear a set of largely untapped resources to greatly enhance the range of pre- and post-disaster response options.</p> | <p>Developed and fully tested training modules and materials integrated into comprehensive training programs for elected officials and municipal staff in disaster PMP programming.</p> <p>Developed and fully tested training modules and materials integrated into comprehensive training programs for children, homeowners, communities, and NGOs on disaster PMP strategies and activities replicable in the region.</p> <p>Developed and fully tested training modules and materials and types of TA interventions integrated into comprehensive disaster PMP/ environmental degradation management for community and national level programs.</p> <p>Integration of building professions in local government processes of up to four Ecuadorian and two other municipalities in other countries to prepare municipal codes, regulations and standards to be part of disaster PMP programming.</p> <p>Approval by up to six municipalities model legislation, regulations, contracts, and procedures to permit expeditious involvement of the construction industry for post-disaster assistance.</p> <p>Prepared sets of guidelines that promote design concepts, materials, techniques, and standards for disaster-resistant housing and lifelines located in hazard-prone countries.</p> <p>Developed insurance plans and policies to protect housing and lifelines in high risk areas and hazard-prone countries.</p> | <p>Review training modules and materials.</p> <p>Review training modules and materials.</p> <p>Review training modules and materials and TA intervention results.</p> <p>Interview building professions' representatives and local government officials served.</p> <p>Review legislation, regulations, contracts, procedures adopted.</p> <p>Interview of construction industry collaborators.</p> <p>Review guidelines.</p> <p>Review plans and policies developed and number of new insurance schemes signed up with beneficiaries.</p> | <p>Local governments offered project assistance are receptive to receiving it and follow through with assistance recommendations.</p> <p>Enough community-based organizations with credibility established with target low-income segments of the population are available to serve as intermediaries to channel project assistance effectively.</p> <p>Enough community-based organizations with credibility established with target low-income segments of the population are available to serve as intermediaries to channel project assistance effectively.</p> <p>Enough building professions' representatives, insurance industry firms, and financial sector institutions are identified to try out such public/private sector partnership collaborations.</p> <p>Enough building professions' representatives, insurance industry firms, and financial sector institutions are identified to try out such public/private sector partnership collaborations.</p> |

| NARRATIVE SUMMARY   | OBJECTIVELY VERIFIABLE INDICATORS  | MEANS OF VERIFICATION   | IMPORTANT ASSUMPTIONS  |
|---|--|---|--|
| <p>Outputs:</p> <p>Fully tested and proven interventions for RHUDO/SA to offer AID Missions to provide disaster PMP assistance to their countries.</p> <p>Fully negotiated agreements between RHUDO/SA and AID Missions on the coverage of disaster PMP assistance to be implemented in their countries.</p> <p>Ordinances, codes, and regulations which mitigate and prevent construction in hazard-prone countries.</p> <p>Natural hazard assessments and maps.</p> <p>Training modules and materials on disaster PMP developed for different project beneficiaries.</p> <p>Strategies, activities, training modules and materials, and tested TA interventions developed for disaster PMP/environmental degradation management programs for community and national level programs.</p> <p>Cases of building professions' assistance with local government processes to prepare municipal codes, regulations, and standards to mitigate and prevent adverse natural disaster impacts.</p> | <p>Developed formal arrangements and processes with private financial sector institutions to provide credit to low-income families for retrofitting homes to increase their resistance to natural disasters and for post-disaster reconstruction and repair.</p> <p>Magnitude of Outputs:</p> <p>Full range of training, TA, and other support activities.</p> <p>For up to three AID program assistance countries.</p> <p>For up to six municipalities.</p> <p>For up to two communities.</p> <p>For a variety of project beneficiaries cited in the Project Paper.</p> <p>Sets of fully tested interventions for community and national level programs.</p> <p>For up to six municipalities in the region.</p> | <p>Review arrangements made, processes adopted, and number of credits offered.</p> <p>Review interventions developed.</p> <p>Review agreements reached.</p> <p>Review ordinances, codes, and regulations developed.</p> <p>Review assessments and mapping completed.</p> <p>Review modules and materials prepared.</p> <p>Review strategies, activities, modules, materials, and TA interventions developed and implemented.</p> <p>Interview building professions' project participants and municipal officials.</p> | <p>Assumptions for achieving outputs:</p> <p>Same as those cited for achieving project purposes.</p> |

| NARRATIVE SUMMARY  | OBJECTIVELY VERIFIABLE INDICATORS  | MEANS OF VERIFICATION   | IMPORTANT ASSUMPTIONS   |
|--|--|---|---|
| <p>Model legislation, regulations, contracts, and procedures developed to permit expeditious construction industry assistance in disaster PMP activities.</p> <p>Design concepts, materials, techniques, and standards for disaster-resistant housing and and lifelines.</p> <p>Insurance schemes that cover natural disaster damage to low-income housing and vital lifelines.</p> <p>In place arrangements and processes with financial industry institutions to offer credit to low-income families for housing retrofitting and post-disaster reconstruction and repair programs.</p> <p>Inputs:</p> <p>\$2.5 million of OFDA financing.</p> | <p>For up to six municipalities in the region.</p> <p>Sets of guidelines covering all areas cited.</p> <p>Fully tested and comprehensive schemes.</p> <p>Fully tested and comprehensive arrangements and processes.</p> <p>Implementation Target (Type and Quantity)</p> | <p>Review legislation, regulations, contracts, and procedures developed.</p> <p>Review guidelines developed.</p> <p>Review schemes devised.</p> <p>Review arrangements and processes devised.</p> <p>AID records, evaluations.</p> <p>Institutional contract project manager's annual work plans.</p> <p>Minutes of Disaster PMP Project Advisory Committee Meetings.</p> | <p>Same as those cited for achieving project purposes.</p> |

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