

## DISASTER MITIGATION IN CENTRAL AMERICA

(TC-97-09-46-3)

### EXECUTIVE SUMMARY

**EXECUTING AGENCY:** Coordination Center for the Prevention of Natural Disasters in Central America (CEPREDENAC)

**BENEFICIARIES:** Costa Rica, El Salvador, Honduras, Guatemala, Nicaragua, Panama

<b>FINANCING:</b>	IDB: FSO non-reimbursable	US\$ 300.000 <u>a/</u>
	Japanese Special Fund:	US\$1,110,000
	World Bank	US\$ 300.000 <u>b/</u>
	Subtotal	US\$1,710.000
	Local counterpart funding	<u>US\$ 675,000</u>
	Total:	US\$2.385.000

**PERIODS:** Execution period: 36 months  
Disbursement period: 42 months

**OBJECTIVES:** This technical cooperation aims to improve capacity in six Central American countries to prevent or mitigate the most devastating effects of natural disasters. While preparation of this technical cooperation pre-dates Hurricane Mitch, the emphasis on prevention and mitigation will complement the reconstruction effort now underway and support the sustainability of the reconstruction investments by helping build permanent technical and operational capacity so that the countries are better prepared in the future. In so doing, the goal of the present program is to help reduce the region's long-term and recurrent risk due to natural hazards. Particular focus goes beyond Hurricane Mitch per se and includes those natural hazards related with climate variability (drought, torrential rains or hurricanes, wildfires, flood and landslides).

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a/ These resources are being provided via four national FSO non-reimbursable technical cooperation for Guatemala, El Salvador, Nicaragua and Honduras (ATN/SF-6220-GU, ATN/SF-6221,ES, ATN/SF-6222-NI and ATN/SF-6457-HO, respectively.

b/ Approved by the World Bank in February 1999. These resources will be provided directly by the World Bank to CEPREDENAC as a parallel grant.

The specific objectives of this technical cooperation are to promote: (i) the technical capabilities in prevention and mitigation of natural disasters of the responsible regional and national institutions; (ii) the integration of the national institutions in a regional network to share technical information and best practice; and (iii) an appropriate level of investment in measures to mitigate the impacts of natural hazards throughout the region, with particular focus on those related with climate variability (drought, wildfires, torrential rains, hurricanes, flood and landslides).

**DESCRIPTION:**

Overview: The Program will employ two principal instruments to meet the objectives: (i) a Fund to finance disaster prevention/mitigation activities that are developed locally by public and private organizations; and (ii) a technical assistance package to strengthen the technical and operational capacity of the national systems for disaster management and risk reduction throughout the region. The technical cooperation will be implemented by the Coordination Center for the Prevention of Natural Disasters in Central America (CEPREDENAC), which as part of the Central American Integration System (SICA) is the regional entity responsible for assisting and coordinating national and regional efforts in this regard. The technical cooperation will also strengthen CEPREDENAC's capacity to implement the program activities.

Components:

1. The Prevention and Mitigation Fund (US\$800,000): The Prevention and Mitigation Fund will offer grants on a shared-cost basis to public and private and non-governmental organizations in the six participating countries for the design and implementation of disaster mitigation projects. To be eligible for fund financing, the projects must be designed to reduce or eliminate long-term and recurring risk to people and property from natural disasters. These may include a number of actions in the areas of: risk/vulnerability assessments, structural and nonstructural mitigation measures, and the development or strengthening of the institutional capacity for such activities. To get access to the grants, the countries or the executing organizations will themselves have to contribute US\$1 for every US\$3 granted from the Fund. The maximum grant from the Fund is US\$150,000.

2. Institutional Strengthening and Development (US\$740,000): This component will help build a

network of technical expertise in the area of risk reduction, and an operational relationship between the regional coordinating body (CEPREDENAC) and the national counterparts who are directly responsible for developing mitigation programs in their countries. This component is designed to provide a concerted infusion of technical expertise into the region by financing the participation of internationally recognized disaster mitigation experts in the institutional strengthening activities.

2.1 Building National Systems for Disaster Mitigation and Preparedness: This sub component will finance a program of technical studies and workshops aimed at guiding the design of action plans for the development of new strategies and institutional arrangements for disaster prevention. The workshops will produce: (i) an understanding of the opportunities and challenges for the development of national systems (institutional framework) for disaster mitigation and preparedness in Central America; (ii) the evaluation of the technical, regulatory, and institutional requirements for such systems; (iii) work agendas within the national commissions for the development of national disaster mitigation and preparedness systems; and (iv) actions that may be taken by the regional CEPREDENAC body to support these efforts.

2.2 Improving Technical Capacity to Mitigate the Effects of climate variability: This sub component will finance a program of studies and workshops which will: (i) provide the national meteorological services a better understanding of the relationship between the characteristics of drought or torrential rains associated with the climate variability as they develop and the type and intensity of their direct and indirect impacts on selected sectors (principally agriculture, fisheries, health, and potable water); and (ii) promote dialogue with and within the sectoral organizations and local actors (municipalities, NGOs, citizen groups) who confront these impacts, so that together they will spearhead the development of early warning mechanisms appropriate to the different sectoral users, as well as identify viable measures which can be taken at each phase of warning to mitigate the consequences.

3. Institutional Development: CEPREDENAC (US\$845,000): This Component will strengthen CEPREDENAC's administrative and technical capabilities necessary to execute the technical cooperation. The component will finance: (i) The administration of the Prevention and Mitigation Fund. A full-time Program Coordinator for

the Fund who is a recognized specialist in disaster mitigation/ prevention will be contracted. Special attention will be placed on building a core group of disaster mitigation consultants who can work with the national commissions to develop technically sound project proposals for Fund financing. (ii) Improved Financial Management. A financial execution mechanism for the Fund, as well as the financial reporting system to provide the information required by the IDB regarding disbursements will be set up. A specialist in financial and contracts administration will be contracted (in addition to the existing accountant) to manage both these tasks over the life of the Program. (iii) Management Information System (MIS). A management information system will be created within the Administration Unit to provide information about disaster mitigation throughout the region and, thus, augment CEPREDENAC's ability to monitor mitigation developments in the countries and to interact with the international community which is looking to assist the identification of international cooperation programs. In addition, the MIS will assist the execution of the Mitigation Fund among its multiple participants, as well as the annual monitoring and evaluation studies of the technical cooperation as a whole.

**ENVIRONMENTAL/  
SOCIAL REVIEW:**

This program will not result in any negative environmental impact.

**BENEFITS:**

The principal benefits of the activities supported by the present program will be: (i) national authorities' improved understanding of the region's risk to natural disasters, and the available measures to manage and reduce them; (ii) increased ability to manage and reduce risk due to natural disasters; and (iii) increased awareness of political decision-makers of the importance of prevention and mitigation of natural disasters as an important development priority.

**RISKS:**

The primary risks to the realization of these benefits is the very limited experience of the national institutions at this stage which may result in a slow start to the use of the Prevention and Mitigation Fund. The Fund's promotion workshops and technical assistance aimed at all potential participants, including NGOs, community organizations, and municipalities, as well as national agencies should help mobilize demand for the Fund's resources. Moreover, the countries have adopted this direction in the regional institutional plan, and recognize the importance of improving their mitigation measures.

**THE BANK'S SECTOR POLICY:** The Bank's Natural Disaster Policy was updated in 1998. In addition to emergency response and reconstruction, it specifically aims to help countries to better prevent and mitigate natural disasters. The present operation will encourage countries to invest in building technical, operational and policy capacity to better face disasters in the future.

**SPECIAL CONTRACTUAL CONDITIONS:** CEPREDENAC should present to the Bank, as condition prior to first disbursement, evidence (i) that they have adopted the Operating Manual (see annexes in the project files) and (ii) prepared the terms of reference/job profiles for the Mitigation Fund Program Coordinator, the Institutional Development Coordinators and the accountant/contracts professional (see paragraph 3.16).

**RESPONSIBILITY OF THE BANK:** Supervision of the operation will be done through COF/CPN.

## I. BACKGROUND

### A. Natural hazard risk in Central America

- 1.1 Central America is one of the most disaster prone regions of the world. The Isthmus lies atop five tectonic plates, with active local and regional fault systems and 27 active volcanoes. It is also located at the western extreme of the Caribbean hurricane belt and is regularly hit with severe wind and intense rainfall. With mountainous terrain and complex river basin systems, landslides and flooding are common. Moreover, these hazards are exacerbated by the onset of extreme weather events, resulting from the El Niño phenomenon, which periodically affects the region and by altering rainfall patterns, regularly leads to drought and wildfires or torrential rains, landslides and floods.
- 1.2 The combination of these multiple physical hazards and the region's highly vulnerable social and economic milieu produces a dynamic context of risk, with the permanent threat of disaster. While it is the large scale disaster events in the region, such as earthquakes or, most recently, Hurricane Mitch, that grab international attention, these dramatic and damaging events are only a part of the problem. Every year, the region suffers literally hundreds of medium and small scale events which together cause more damage and disruption than the large events. In the last thirty years, seventy major disasters and over 90 smaller scale events were registered in the US Agency for International Development, Office of Foreign Disaster Assistance (AID/OFDA). A pilot study looking in just three countries (Costa Rica, El Salvador and Guatemala) from 1990-1995 registered over 2,400 small scale, local events. 1/

### B. Disasters threaten sustainable development

- 1.3 Natural disasters threaten the sustainable development of Central America. Annual losses due to natural disasters have been estimated at \$1.5 billion in Central America and the Caribbean (ECLAC, 1989). Disasters destroy years of development effort and investments, place new demands on society for reconstruction and rehabilitation, and shift development policy and priorities often with long-term consequences. Even when the international community responds generously, the assistance rarely covers more than a small portion of the incurred costs. For the small economies in Central America, natural disasters can be particularly damaging, as the following table indicates.

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1/ Study done by the Latin-American Network for the Social Study of Disaster Prevention (La Red)

Effects of Selected Disasters in Central America				
Event	Economic Performance	Fiscal Effects	Balance of Payments Effects	Infrastructure and Capital Losses
Nicaragua, 1972 (Earthquake)	GDP fell 15% overall, and 46% in industrial and productive activity in Managua.	Tax revenue fell 39%	Sixfold increase in current account deficit: reduction of 20% in exports and increase of 20% in imports.	Sevenfold increase in investment requirements in fixed capital (both public and private)
Honduras, 1974 (Hurricane)	GDP fell 6% overall and 23% in agriculture	Fiscal deficit grew 79% due to a decrease in current tax revenues of 15% and increase in expenditures of 65%	Threefold increase in the current account deficit; imports grew 61% and exports fell 66%	Loss of national assets and decrease in production represented almost twice the average annual investment
El Salvador, 1982 (Several)	GDP fell 2%	Fiscal deficit increased 30%	External deficit grew 25%	Losses of capital and infrastructure equivalent to average investment in one year
Nicaragua, 1988 (Hurricane)	GDP fell 2%, 17% in the agriculture sector	Fiscal deficit increased 20%	Balance of payments deficit increased 10%	Total damages estimated at US\$839 million
Nicaragua, 1992 (Cerro Negro, Volcano)	GDP fell less than 1%	Less than 10% increase in fiscal deficit	Balance of payments deficit increased 2%	Total damages estimated at US\$19 million
Nicaragua, 1992 (Tsunami)	GDP fell almost 1%	Fiscal deficit increased an additional 5%	Balance of payments deficit increased 24%	Total losses estimated at US\$25 million
Honduras, 1998 (Mitch) *	GDP fell 2.1%	1.7% of the GDP	Balance of Payment deficit increased -5.3%	Total losses estimated at US\$2 billion
Nicaragua, 1998 (Mitch) *	GDP fell 1.5%	Without information	Without information	Total losses estimated at US\$562 million
Guatemala, 1998 (Mitch) *	GDP fell 0.2%	0.3% of the GDP	Balance of Payment deficit increased -0.7%	Total losses estimated at US\$300 million
El Salvador, 1998 (Mitch) *	GDP fell 0.25	Without information	Balance of Payment deficit increased -0.3%	Total losses estimated at US\$179 million
This table is adapted from, R. Caballero & R. Zapata, "The Impacts of Natural Disasters on Developing Economies : Implications for the International Development and Disaster Community," in <u>Disaster Prevention for Sustainable Development: Economic and Policy Issues</u> . 1995. Munasinghe and Clarke (eds.).				
* CEPAL & International Monetary Council. Mexico. B. Serna, Personal communication.				

1.4 The current patterns of development are likely to add to the region's vulnerability in the future. In spite of enormous investments in physical infrastructure (largely in urban areas), investments to protect these same assets and to provide security for the population have not kept pace. Distribution networks for food, water and power are particularly vulnerable to natural hazards. Given their extension and interdependence, breakdowns in these systems cause far-reaching consequences. As cities rapidly grow throughout the region, they are absorbing greater percentages of the poor who settle in disaster-prone areas along steep slopes

and riverbeds. Without adequate infrastructure such as surface drainage works, landslides and flooding are having ever greater disastrous effects. Outside cities, deforestation, poor agricultural practices and inattention to watershed management have affected the water cycle, accelerated erosive processes, and contributed to river sedimentation - resulting in more severe drought in some areas, and flooding in others. With the population and infrastructure in the region expected to double over the next three decades, there is simply more at risk to natural hazards; without adequate investment in mitigation, social disruption, loss of lives and economic assets are likely to continue to rise as a result.

C. Risk management and reduction in Central America

- 1.5 Throughout the region, prevention and mitigation efforts are taking place in an ad hoc fashion at best. Countries lack effective institutional arrangements, and the technical and policy know how to provide leadership in this area. While most countries have a natural emergency (contingency) plan today, not one has a national mitigation strategy or policy for prevention and mitigation. While efforts are underway to improve this capacity, the damage caused by Hurricane Mitch has demonstrated to both governments and the international community that more must be done. While the countries of the region have established within the Central American Integration System (SICA) a Coordination Center for the Prevention of Natural Disasters in Central America (CEPRENAC), this Center is not yet in a position to provide the technical leadership which is necessary.

1. National level

- 1.6 The capability to manage or reduce natural hazards risk in the region is limited. All of the countries have national emergency commissions (as they are generically called) - governmental bodies made up largely of the civil defense/protection agencies and organizations which were set up in the 1970s in response to large disaster events. National emergency commissions typically have a board of directors, headed by a Presidential appointee, with representatives from the Civil Defense agencies, and some subset of representation from the ministries of health, public works, transportation, housing, and agriculture. The Red Cross too is often represented. A few commissions also include local level counterparts, such as local emergency committees. National commissions may have standing operating departments with staff, and technical advisory committees for a variety of topics as needed.
- 1.7 In times of emergency, these commissions coordinate with a broader spectrum of institutions, including government agencies, NGOs, and others. Today, they have become proficient in a modicum of preparedness activities such as stockpiling supplies, information management, and training of local emergency committees.



- 1.8 None of these national emergency commissions exemplify, however, what elsewhere in the hemisphere is termed "National System for Disaster Mitigation and Preparedness" as they persist in their focus on emergency response with little attention or capability for disaster prevention and mitigation. Few of these commissions have active or senior members from line ministries in their membership, let alone significant coordination with the local level. No commission has operational responsibilities or a standing budget up to the task of risk reduction in their country.
- 1.9 Since the mid-1970s, scientific organizations in the region have been researching natural hazards and mapping areas at risk to seismic, flooding and landslide activity. Emergency commissions have access to this information, and frequently include scientific agencies as members. Yet while a fair amount is known about the physical hazards in the region today, the understanding of social and economic vulnerability - those factors which condition the impact of these physical events - is sorely lagging. A cadre of recognized disaster mitigation specialists within the region is small, at best.
- 1.10 In the last decade, however, the Central American countries have begun to undertake activities which are important building blocks for the creation of viable National Disaster Mitigation Systems. Some sectoral agencies such as public works, housing, and health have adopted disaster mitigation activities. For example, housing agencies within the region have trained self-help builders in wind and seismic resistant home designs; health ministries have issued earthquake and flood standards for hospital construction; and public works ministries have dredged rivers, built flood control dikes, and stabilized slopes along highways. Similarly, local authorities have reflected risk reduction criteria in their land use and urban development planning. Some municipalities are delineating high risk areas and working with communities to put in place low cost mitigation measures such as surface drainage systems, construction setbacks away from steep slopes, retention walls, and even monetary incentives to relocate into safe areas. Costa Rica is reforming its emergency legislation to include disaster prevention in the purview of its national emergency commission and, as a result, is broadening its membership to include development planning, sectoral agency, and local representation.

## 2. Regional level

- 1.11 At the regional level, the countries have recognized their shared vulnerability to natural hazards and have organized together to do something about it. By the late 1980s, they had formed an informal regional association of emergency and scientific institutions such as CEPREDENAC, and, with extra-regional donor assistance, began supporting hazard assessments, emergency response and preparedness programs in each country. The member countries themselves formed National CEPREDENAC Commissions which are made up of represent-

atives from the national emergency commissions, complemented by sectoral and scientific agencies. Seven years later in 1995, the six member countries (presidents and national congresses) formally ratified CEPREDENAC as a regional intergovernmental organization under the Sistema de Integración Centroamericana (SICA). Its mandate: "to promote and coordinate international cooperation; and the exchange of information, technical assistance, and technology related to the prevention of disasters, thus contributing to an improvement in decision making as regards disaster planning and management."

1.12 With the adoption of its institutional strategy for the promotion of disaster prevention, CEPREDENAC has consolidated its role in the region. This is particularly evident in the last three years: It is successfully pushing the adoption of mitigation in the sectoral plans of other SICA regional institutions, and has initiated activities for strengthening the national CEPREDENAC commissions, including coordinating the training and financial support for the design and execution of disaster mitigation projects. This consolidation process has been largely supported with funds and technical assistance by the Swedish Government. In recognition of the Center's growing role in promoting disaster mitigation in the region, the member states have replaced extra-regional donor support for CEPREDENAC's regular administrative budget. As of 1998, member states are supporting 100% of the budget - up from just 30% contribution two years ago. (See Project Files for the institution's operating plan and budget).

1.13 Despite these important gains, CEPREDENAC's impact in terms of adequate mitigation measures in place on the ground should not be overstated. After the last El Niño episode and now with Hurricane Mitch, both governments and the international community have expressed considerable interest in the potential services of CEPREDENAC, yet it became clear at the same time that the Center has still not reached the level required to mobilize the Region effectively nor to provide the technical leadership which is needed. The major challenge facing the region - and CEPREDENAC - is developing the institutional capability for identifying priorities and solutions, and formulating viable mitigation projects which can attract funding either domestically or from the international community.

D. The lessons of experience

1.14 Disaster Policy and Bank Operations in Emergencies. To date, most of the Bank's support for disaster mitigation has been associated with the reconstruction and rehabilitation of affected sectors and physical infrastructure after an emergency. These have been important efforts to ensure the rebuilding will better withstand natural hazards in the future. The present operation will help countries to improve their institutional and regulatory frameworks, and technical capacity necessary to ensure sustained investments in

disaster mitigation to reduce the region's vulnerability over the long run.

- 1.15 The Bank is well positioned to help countries improve their capabilities to take sustained actions to reduce or eliminate long-term, and recurring, risk to people and property from the effects of natural disasters. The Bank's support of the SICA (TC-95-07-02-3-RG) has streamlined and integrated the work of the many commissions, institutes, and councils of the regional system, thus providing the platform for focused assistance to CEPREDENAC to fulfill its mandate within SICA. The Bank is also supporting complementary regional TC operations: One will evaluate the necessity of financing an operation that will improve the El Niño Southern Oscillation (ENSO) observing system, providing scientific data for improved modeling for event forecasting and impact scenarios (TC-97-12-38-3-RG); and the other will support the development of policy and strategies for the integrated management of water resources in the region (TC-97-27-7-RG). The promotion of mitigation measures in the region will benefit from better water resource management, as well as monitoring and forecasting capacity when they come on line.

## II. OBJECTIVES

- 2.1 The goal of the present program is to help reduce the region's long-term and recurrent risk due to natural hazards. The specific objectives are to promote: (a) the technical capabilities in prevention and mitigation of natural disasters of both the responsible regional and national institutions; (b) the integration of the national institutions in a regional network to share technical information and best practice; and (c) an appropriate level of investment in measures to mitigate the impacts of natural hazards throughout the region. Particular focus is on those natural hazards exacerbated by El Niño events (drought, wildfires, torrential rains, hurricanes, flood and landslides) as this phenomenon will continue to cause extreme weather events in the region periodically.

## III. DESCRIPTION

### A. Program overview

- 3.1 The Program will employ two principal instruments to meet the objectives: (i) a Fund to support disaster prevention/mitigation projects developed within the countries, and (ii) a technical assistance package to strengthen the technical and operational capacity of the national systems for disaster management and risk reduction throughout the region. As this is a new program, the technical cooperation will also strengthen CEPREDENAC's capacity to implement the program activities.

- 3.2 While the Program deals primarily with the long-run risk reduction, it will also help prepare the region to confront more effectively natural hazard events as they unfold.

B. Components

- 3.3 The Program will consist of three components that are designed to provide broad support to the region's overall strategy for promoting disaster mitigation. They will help build a network of technical expertise in the area of risk reduction, and an operational relationship between the regional coordinating body, CEPREDENAC and the national counterparts who are directly responsible for developing mitigation programs in country. The components will also support an increase in direct investments in mitigation.

1. Component 1: The Prevention and Mitigation Fund (US\$800,000)

- 3.4 The Prevention and Mitigation Fund will offer grants to public and private institutions/organizations in the six participating countries for the design and implementation of disaster mitigation projects. To be eligible for fund financing, the projects must be designed to reduce or eliminate long-term and recurring risk to people and property from natural disasters. These may include a number of actions in the areas of: risk/vulnerability assessments, structural and nonstructural mitigation measures, and the development or strengthening of the institutional capacity for such activities. The maximum size of any one grant will be US\$100,000 per project. To get access to the grants, the countries and the executing organizations will themselves have to come up with a contribution in cash: US\$1 contribution for every US\$3 grant, up to the maximum. As the table on page 14 indicates, the Fund can be expanded (or receive additional funds) from donors not yet identified who could be interested in individual projects. The maximum any one country may receive for such projects during the first two years is US\$150,000 of the Fund's resources. After that time, new caps may be put in place as appropriate.
- 3.5 Because natural disasters associated with the climate variability allow a relatively long lead time, a special window will also be set up under the Fund for mitigation measures, taken during the unfolding of an El Niño event, which will reduce the imminent impact of related hazards (floods, torrential rains, hurricanes, landslides and wildfires). See the table below for the types of eligible projects. This window will not finance emergency response or humanitarian aid - including activities such as the procurement of food, shelter, infrastructure works, equipment, or production supplies. The maximum size of any one grant through this window will be US\$50,000 per project, and the amount will be conditioned on the country's contribution (same as above). The Prevention and Mitigation Fund may disburse up to 25% of its overall resources through this window.

**Prevention and Mitigation Fund  
Types of Eligible Projects\***

***Window A: Risk/Vulnerability Assessment and Mitigation Measures***

Projects which will:

- develop or implement disaster mitigation plans for a sector, multiple sectors, geographic region or locality.
- undertake specific vulnerability and risk studies (by sector or geographic location) for the preparation of investment projects.
- modify or develop adequate building codes (flood, wind, seismic resistance), standards for critical facilities and publicly financed buildings (schools, hospitals, energy plants), grading controls, and land-use regulations.
- educate, train and provide technology to: government officials, private sector personnel (business, banking, insurance, etc.) and the disaster-prone population about disaster risk and the mitigation measures available. Examples, improve communities understanding and use of weather information; hurricane safety programs for schools, hospitals, and public works personnel.
- small demonstration projects.

***Window B: Development and Strengthening of National Institutions***

Projects which will:

- establish an adequate institutional and regulatory framework.
- develop a national prevention/mitigation strategy.
- educate, train and provide technology to: government officials, private sector personnel (business, banking, insurance, etc.) and the disaster-prone population about disaster risk and the mitigation measures available.
- develop or implement a national emergency or contingency action plan.

***Window C: Climate Variability related Events***

Projects which will:

- assess needs in localities and sectors already affected or where risk to the population and production is imminent.
- design and implement public information campaigns for early warning and updates of the event's onset and impacts, and guidelines for preparing for the associated events.

For more detailed descriptions, see the Operating Manual in the Project files.

- 3.6 Disaster mitigation projects financed through the Fund will perform much like a Social Investment Fund. This means that (public and/or private) organizations 2/, with professional services provided by disaster mitigation consultants contracted by the Fund, will identify and prepare project proposals for financing. This will happen in two steps which will screen for the projects with the best potential, and subsequently provide the technical support to make them viable. Step One: the interested group will submit a brief project profile and evidence of counterpart financing to the national commission of CEPREDENAC who, confirming both the funding and that the project falls within the country's mitigation priorities, passes it directly to the Fund for initial eligibility clearance. At this step, the Fund is actually granting preliminary approval of the project, subject to the project adopting specified technical changes recommended by the staff. Step two: the applicant group will prepare the full proposal including a detailed description of the project, the schedule of activities, and financing arrangements in accordance with the guidelines outlined in the Operating Manual (see project files). If needed, the Fund will contract technical assistance required to help the project proposal comply with the technical requirements agreed to in step one. Upon completion of these requirements, the project is then approved. The applicants will be responsible for executing the project, and will receive the financing directly from the Fund.
- 3.7 CEPREDENAC's Project Unit will run workshops in each country for National Commissions, their member institutions, NGOs, and other organizations interested in the Program, to familiarize them with the procedures for establishing project eligibility and for project preparation. The Projects Unit will directly contract authorized mitigation specialists (consultants) to provide any needed technical support for project preparation and to supervise the project execution. Approval of proposals will be taken by the Board of Directors of CEPREDENAC, upon the technical recommendation of the Projects Unit.

2. Component 2: National capacity building and Regional Integration (US\$740,000)

- 3.8 The Institutional Strengthening and Development component will help build a network of technical expertise in the area of risk reduction, and an operational relationship between the regional coordinating body, CEPREDENAC and the national counterparts who are directly responsible for developing mitigation programs in their countries. The components are designed to provide a concerted infusion of technical expertise into the region by financing the participation of internationally recognized disaster mitigation experts in the development of the studies and workshops, and in evaluations of the process and results.

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2/ Extra-regional initiatives will be eligible to participate for Fund resources, if they have local partners.

a. Sub Component 1: Building National Systems for Disaster Mitigation and Preparedness

- 3.9 The sub component will finance a consultant based in CEPREDENAC to work with the national commissions to develop and organize a series of technical studies and workshops aimed at guiding the development of action plans for the development of new strategies and institutional arrangements for disaster prevention.
- 3.10 The consultant will organize a series of workshops and meetings where the national commissions will discuss the results of these studies with experts and professionals linked to disaster mitigation systems in other countries. These workshops will produce: (i) an understanding of the opportunities and challenges for the development of national systems (institutional framework) for disaster mitigation and preparedness in Central America; (ii) the evaluation of the technical, regulatory, and institutional requirements for such systems; (iii) work agendas within the national commissions for the development of national disaster mitigation and preparedness systems; and (iv) actions that may be taken by the regional CEPREDENAC body to support these efforts.

b. Sub Component 2: Improving Technical Capacity to Mitigate the Effects of climate variability related Events

- 3.11 This sub component will finance country level studies and workshops which will bring the meteorological services and other scientific-technical institutions (the hazard detection and prediction agencies), together with national emergency commissions (those who issue the warnings), and the sectoral agencies and local communities (those who use the information they develop to take the mitigation measures).
- 3.12 A program coordinator (consultant) will be located alternatively between CEPREDENAC and the sister agency, the Regional Committee for Water Resources (CRRH) as needed to facilitate the work. CRRH is the regional body under SICA which coordinates the national meteorological services, and which in the past has been instrumental in providing key technical information to the CEPREDENAC network. The Coordinator will work with CRRH and CEPREDENAC to develop and organize these studies and workshops which will: (i) provide the national meteorological services a better understanding of the relationship between the characteristics of drought or torrential rains associated with the climate variability as they have developed and the type and intensity of their direct and indirect impacts on selected sectors (principally agriculture, fisheries, health, and potable water); and (ii) promote dialogue with and within the sectoral organizations (at both the national and local levels) who confront these impacts, so that together they will spearhead the development of early warning mechanisms appropriate to the different sectoral users, as well as identify viable measures which can be taken at each phase of warning to mitigate the consequences.

- 3.13 The consultant will also coordinate the compilation of all documents, reports, studies, projects, and plans which were developed throughout the region in response to the last El Niño catastrophe as well as those during 1982-83, 1986-87, and 1991-92. These documents will be sent to a documentation center supported by AID/OFDA where they will be registered in accordance with their information classification and use scheme. The information collected from Central America will complement that being collected in selected South American countries, and will be readily accessible to the public via the Internet.

3. Component 3: Institutional strengthening of CEPREDENAC  
(US\$845,000)

- 3.14 This Component will strengthen CEPREDENAC's administrative and technical capabilities necessary to execute the technical cooperation and build its permanent capacity to assist the countries in its mitigating efforts of natural disasters. The component will finance: (i) The administration of the Prevention and Mitigation Fund. The Projects Unit will administer the Prevention/Mitigation Fund. A full-time Program Coordinator for the Fund who is a recognized specialist in disaster mitigation/prevention will be contracted for two years. He/she will be solely responsible for the execution of Fund, and will place special attention to identifying and building a group of disaster mitigation specialists who the Fund can contract, on a short-term basis, to work with the national commissions to develop technically sound project proposals for Fund financing, as well as to generally promote access to the Fund. At the end of the first year, an external review of the effectiveness of the operational procedures of the Fund will be undertaken, and any revision of the Operating Manual will be adopted upon approval by the Bank; (ii) Improved Financial Management. A contract processing and financial execution mechanism for the Fund, as well as the financial reporting system to provide the information required by the IDB regarding disbursements, will be set up in the first three months of Program execution. An accountant/contracts professional will be contracted (in addition to the existing accountant) to manage both these tasks over the life of the Program. The annual external audit conducted by a recognized international auditors will include the new Bank-supported activities. A Management Information System; (iii) A consultant will be hired to create and manage for three months a management information system within the Administration Unit to provide information about disaster mitigation throughout the region and, thus augment CEPREDENAC's ability to monitor mitigation developments in the countries and to interact with the international community who is looking to assist the identification of international cooperation programs. In addition, the Management Information System (MIS) will assist the execution of the Mitigation Fund between its multiple participants, as well as the annual monitoring and evaluation studies of the technical cooperation as a whole.



C. Organization and execution

- 3.15 Program Coordination. CEPREDENAC, with headquarters in Panamá, will be the executing agency for the overall program. The Center has provided the counterpart team throughout Program preparation and will be responsible for all aspects of project execution, including the interface with the Bank and disbursement of program resources. The national commissions of CEPREDENAC as well as relevant private and local organizations will be the primary partners in the execution of the Fund and the "Building National Systems for Disaster Mitigation and Preparedness" (Component 2.1) in each country. CRRH, as the regional body coordinating the detection and monitoring of hazards related to climate variability, will be the primary partner for the execution of the Improving Technical Capacity to Mitigate the effects of future El Niño related Events (Component 2.2).
- 3.16 The Executive Secretary of CEPREDENAC will be responsible for the overall implementation of the Program. The Board of Directors of CEPREDENAC will formally approve all mitigation project applications in accordance with the criteria established in the Fund's Operating Manual (see project files). **CEPREDENAC should present to the Bank, as condition prior to first disbursement, evidence that they have adopted the operating manual.** The Program Coordinator for the Mitigation Fund and the two coordinators for the Institutional Strengthening component will report directly to the Executive Director. Also reporting directly to the Executive Director, an accountant/ contracts professional will be hired to oversee the financial execution of the Fund, and be responsible for financial reporting for the entire Program in accordance with Bank guidelines. **The terms of reference/job profiles for the Mitigation Fund Program Coordinator, the Institutional Development Coordinators and the accountant/contracts professional will be agreed with the Bank.**
- D. Principal operating units: The Projects Unit and the Administrative Unit
- 3.17 The Projects Unit. The start-up of the Prevention and Mitigation Fund should be relatively swift. The Fund's Operating Manual only represents slight revision of those with which the Projects Unit and the countries have been working for the last years. The addition of a dedicated Program Coordinator for the Fund and the cultivation of a core group of technical consultants will allow CEPREDENAC to begin immediately and to steadily ramp up over the first year.
- 3.18 The Administrative Unit: The Administrative Unit provides the management, coordination, and outreach support to the Executive Secretary. The two coordinators for the Institutional Strengthening and Development (Component 2) will form part of the Administrative Unit. The financial reporting system and the

Management Information System will be set up immediately, and will provide the information backbone for the execution of the program.

E. Monitoring performance: reporting, benchmarks, and procurement

- 3.19 The activities and results (benchmarks) expected from each component are set out in the execution matrix in Annex 1. The arrangements for monitoring and reporting are intended to provide a clear account of what is expected from each component of the Technical Cooperation, independent information on actual performance, and the means for the executors of the TC, in consultation with the Bank, to make the necessary adjustments. The information to monitor these benchmarks will come from: the management information system used by CEPREDENAC to supervise the Technical Cooperation, the annual performance studies carried out by independent consultants on a sample of mitigation projects financed by the Prevention and Mitigation Fund, and the evaluation of the institutional development/strengthening subcomponents.
- 3.20 The tentative disbursement schedule for the Technical Cooperation is as follows:

Tentative Schedule of Disbursements (US\$000)				
FUNDS	Years of Execution			Totals
	Year 1	Year 2	Year 3	
CEPREDENAC & Member Countries	269	268	138	675
Japanese Special Fund	370	370	370	1.110
IDB	150	150		300
World Bank	150	150		300
Total	939	938	508	2.385
Percentage	39%	39%	22%	100%

F. Cost and financing

- 3.21 Total cost of the Technical Cooperation is estimated to be the equivalent of US\$2,385,000. Nonreimbursable funding will be provided by the Japanese Special Fund in the amount of US\$1,110,000 and the Bank has already approved US\$300,000 from the Fund for Special Operations (FSO). In addition, the World Bank has approved a US\$300,000 contribution in parallel to the Prevention and Mitigation Fund (P/M).
- 3.22 Counterpart costs are the equivalent of US\$675,000, and represent 28% of the cost of this program. Throughout the Program, the member countries will continue to support 100% of CEPREDENAC's regular administrative budget, which amounts to US\$415,000 over three years. This will cover: the salaries of the Executive Secretary and small staff, office administration of the Projects



#### IV. RISKS AND BENEFITS

- 4.1 The primary risk is that the national CEPREDENAC commissions, who (with the possible exception of Costa Rica) have very little experience in prevention and mitigation at this stage, will be slow to adequately access the Prevention and Mitigation Fund. The technical support provided to the countries by the Fund itself (promotion workshops, technical assistance for project identification and development) should help particularly in the short run. As the institutional development and strengthening activities - geared simultaneously at addressing the commissions' technical and operational shortcomings - get underway, the quantity and quality of the project proposals made to the Fund should improve. Indeed, the institutional strengthening activities and the Fund's two windows (for mitigation measures and institutional strengthening projects) are designed to be mutually reinforcing, with the Fund geared to stimulate a process and provide resources to help countries implement their newly defined priorities.
- 4.2 In addition to the technical and institutional weaknesses that constrain countries' efforts to invest adequately in disaster prevention and mitigation, we recognize that disaster mitigation is simply not yet a national priority for political decision makers. In supporting CEPREDENAC which is within an explicitly political umbrella (the SICA system), this TC has an important forum to help bring disaster mitigation to the attention of senior government officials throughout the region.
- 4.3 Even as the region responds to the most recent disasters, the Program's support of CEPREDENAC's bold focus on improving disaster prevention and mitigation, has the potential of bringing about its chief benefit: better technical and institutional capacity to reduce the region's vulnerability over the long run. Even in helping the responsible national institutions to improve their response to El Niño related events (with resources of Window 3 of the Fund) and to learn vital lessons from the last El Niño catastrophe (component 2.2), the Program maintains the focus on building capacity to confront these events which will continue to occur in the future.

#### V. EVALUATION OF THE PROJECT

- 5.1 Follow up of the Technical Cooperation will be made through the Bank's Representation in Panama with the support of the Project Team in RE2/EN2 and RE2/SO2. Twelve (12) months after initiated the operation, the Project Team will carry out an evaluation of the Program and thereafter, every year, as specified in the execution matrices presented in Annex 1. Ninety (90) days before the end of the Technical Cooperation, the Executing Agency will also contract a final evaluation of its execution with Program funds (component 3), and present the report to the Bank.

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EXECUTION MATRIX

Component 1: Prevention and Mitigation Fund

<b>General Goals:</b> To increase the Region's capacity to take sustained action to reduce or eliminate long-term and recurring risk to people and property from natural disasters.		<b>Specific Purposes:</b> (i) Build a network of technical expertise in disaster prevention and mitigation (ii) Expand the role of national agencies in disaster prevention and mitigation (iii) Operationalize a regional network of national institutions (iv) Leverage additional investment in prevention and mitigation measures before disaster strikes		
	Year 1	Year 2	Year 3	Information Sources and Observations
Staffing	Contract Fund Coordinator ( 2 years)	Contracting technical consultants as needed, growing data base of tried consultants	Contracting technical consultants as needed, growing data base of tried consultants	Annual report on program performance will cover all activities and indicators listed in matrix; sources will be: performance studies of a sample of mitigation projects; evaluation of the Operating Manual; management information system
Procedures	Write TORs and identify core group of technical consultants to provide short-term support the Fund's execution Adopt the Operating Manual	Review the effectiveness of the Fund's operational procedures (Manual) and propose changes to IDB	Propose any changes to Operating Manual to IDB	Performance studies of Mitigation Projects will be designed around logical framework included in the Operating Manual, and will include recommendations for identified problems and for taking advantage of observed good practice.
Outputs	Conduct 6 promotion workshop for the Fund (1 in each country) Preparation of at least 6 mitigation projects for Fund financing (1 per country).	Approval of projects -- 65% of Fund resources committed Supervision of projects' execution Promotion workshops, as needed Evaluation of completed projects' performance	Approval of projects -- 100% of the Fund resources committed Supervision of projects' execution Promotion workshops, as needed Evaluation of completed projects' performance Final evaluation of Fund execution	Annual and Final Evaluation of Fund execution will also look at global indicators: # of grants; average grant size and country contribution; recipient countries; cost of technical support/project; type of projects.
Monitoring Fund's Performance	Design performance studies according to logical framework outlined in Operating Manual Annual review of Fund execution			

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EXECUTION MATRIX

Component 2.1: Building National Systems for Disaster Mitigation and Preparedness

General Goals: To increase the Region's capacity to take sustained action to reduce or eliminate long-term and recurring risk to people and property from natural disasters.		Specific Purposes: (i) Build a network of technical expertise in disaster prevention and mitigation (ii) Expand the role of national agencies in disaster prevention and mitigation (iii) Operationalize a regional network of national institutions (iv) Leverage additional investment in prevention and mitigation measures before disaster strikes		
	Year 1	Year 2	Year 3	Information Sources and Observations
Staffing	Contract Program Coordinator in CEPREDENAC (2 years)			
Procedures	Submit work plan for studies and workshops, TORs for studies to IDB Select and contract experts Submit draft studies	Submit any substantive changes to IDB		Annual report on program performance will cover all activities and indicators listed in matrix; sources will be: the external evaluation of the component; and management information system
Studies	Design the structure of the workshops, select potential participants and speakers	Conduct 6 country level workshops and 1 regional workshop to discuss the findings		
Workshops	Organize and carry out at least one workshop International participation in studies definition and the workshop	National commissions establish Work Agendas and identify Actions for CEPREDENAC External evaluation of the component		External evaluation will review the state of national institutional arrangements and appropriateness of work agendas developed, and the component's contribution to next steps.
Monitoring Performance				

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EXECUTION MATRIX  
Component 2.2: Improving the Technical Capacity to Mitigate El Niño Events

General Goals:		Specific Purposes:		
To increase the Region's capacity to take sustained action to reduce or eliminate long-term and recurring risk to people and property from natural disasters.		(i) Build a network of technical expertise in disaster prevention and mitigation (ii) Expand the role of national agencies in disaster prevention and mitigation (iii) Operationalize a regional network of national institutions (iv) Leverage additional investment in prevention and mitigation measures before disaster strikes		
	Year 1	Year 2	Year 3	Information Sources and Observations
Staffing	Contract Program Coordinator in CRRH (2 years)			
Procedures	Submit work plan, and terms of reference for the study (both parts one and two)	Submit any substantive changes to IDB		Annual report on program performance will cover all activities and indicators listed in matrix.
Study	Select and contract experts --within national meteorological services and selected sectoral and local agencies -- for each country study Complete first draft of study: Part One	Complete final draft of study, Parts One and Two		Sources will be: the external evaluation of the component; and management information system
Workshop	1 regional workshop to discuss findings and select experts for Part Two of study	Design and carry out 6 national and 1 regional workshops to discuss the draft public information material and the recommendations for improving early warnings		External evaluation of the component will evaluate among other things participation of the disaster-related institutions (scientific, planning/sectoral, CNC, local), and the quality of information materials and recommendations)
Monitoring Performance	International participation in studies definition and the workshop	External evaluation of the component		

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**EXECUTION MATRIX**

**Component 3: Institutional Development: CEPREDENAC**

<b>General Goals:</b> To increase the Region's capacity to take sustained action to reduce or eliminate long-term and recurring risk to people and property from natural disasters.		<b>Specific Purposes:</b> (i) Build a network of technical expertise in disaster prevention and mitigation (ii) Expand the role of national agencies in disaster prevention and mitigation (iii) Operationalize a regional network of national institutions (iv) Leverage additional investment in prevention and mitigation measures before disaster strikes		
	Year 1	Year 2	Year 3	Information Sources and Observations
<b>Staffing</b> <b>Financial Management and Reporting Management Information System</b> <b>Monitoring Performance</b>	Contract Program Coordinators for all components above i) Contract Accountant/Contracts professional to set up the contracting and financial execution mechanism for the Fund, and the financial reporting system; and ii) contract accountant. Contract consultant to set up the Management Information System in Administration Unit Annual review of the TC's execution to the Bank	Accountant/contracts professional successfully executing financial aspects of the Fund.  Testing and running MIS, using information for annual evaluation. Diffusion of information to national commissions. Annual review of the TC's execution to the Bank	Accountant/contracts professional successfully executing financial aspects of the Fund.  National CEPREDENAC commissions are knowledgeable about the information available through the system  Annual review of the TC's execution to the Bank	Annual report on program performance will cover all activities and indicators listed in matrix. Sources will be: the external evaluation of the components; and the management information system.  Each year, the member countries contribute at least US\$138,000 to CEPREDENAC's regular budget. This is an important indicator of their commitment to the objectives of the regional strategy.



## PROPOSED RESOLUTION

### REGIONAL. NON REIMBURSABLE TECHNICAL COOPERATION FOR DISASTER MITIGATION IN CENTRAL AMERICA

The Board of Executive Directors

#### RESOLVES:

1. That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, as Administrator of the Japan Special Fund established pursuant to the letter of agreement dated April 26, 1988 between the Government of Japan and the Bank, to enter into such agreements as may be necessary with the Centro de Coordinación para la Prevención de los Desastres Naturales en América Central - CEPREDENAC and to adopt such other measures as may be pertinent for the execution of the plan of operations referred to in Document AT- , with respect to a regional technical cooperation program for disaster mitigation in Central America.

2. That up to the sum of US\$1,110,000, is authorized for the purposes of this resolution chargeable to the resources of the Japan Special Fund.

3. That the above mentioned sum is to be provided on a non reimbursable basis.