



SUSTAINABLE DEVELOPMENT UNIT ■ LATIN AMERICA AND THE CARIBBEAN

Disaster Risk Management in Latin America and the Caribbean Region: GFDRR Country Notes

Guatemala



THE WORLD BANK



GFDRR

Global Facility for Disaster Reduction and Recovery



COUNTRIES AT HIGH ECONOMIC RISK FROM MULTIPLE HAZARDS

(Top 33 based on GDP with 3 or more hazards)^a

1. Taiwan, China
2. Dominican Republic
3. Jamaica
4. El Salvador
- 5. GUATEMALA**
8. Costa Rica
10. Colombia
12. Chile
15. Barbados
18. Ecuador
20. Peru
21. St. Kitts and Nevis
24. Honduras
27. Mexico
32. Bolivia

^a Dilley et al. (2005). Table 7.2.

Guatemala is situated in a zone of high seismic risk due to the conjuncture of three tectonic plates: the North American plate, the Caribbean plate, and the Cocos plate.

GUATEMALA

Natural Disasters from 1982 - 2008^b

Affected People

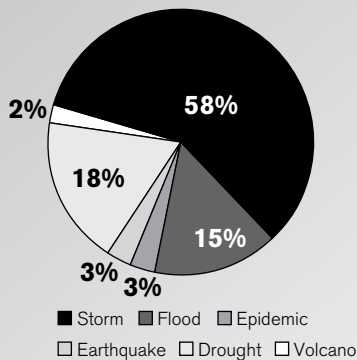
Disaster	Date	Affected (Number of People)
Storm	2005	475,314
Flood	2008	180,000
Drought	2001	113,596
Storm	1998	105,700
Flood	2002	98,740
Drought	1987	73,000
Epidemic	1991	26,800
Earthquake*	1991	23,890
Flood	1982	20,256
Flood	1995	7,435

Economic Damages

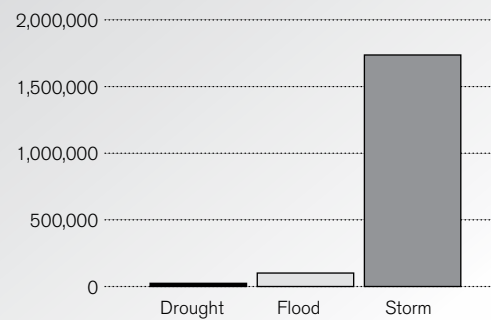
Disaster	Date	Cost (US\$ x 1,000)
Storm	2005	988,300
Storm	1998	748,000
Flood	1982	100,000
Drought	2001	14,000
Drought	1994	10,000
Earthquake*	1982	5,000
Flood	1999	1,000
Storm	1996	500
Storm	2001	100
Storm	2002	100

Statistics by Disaster Type^b

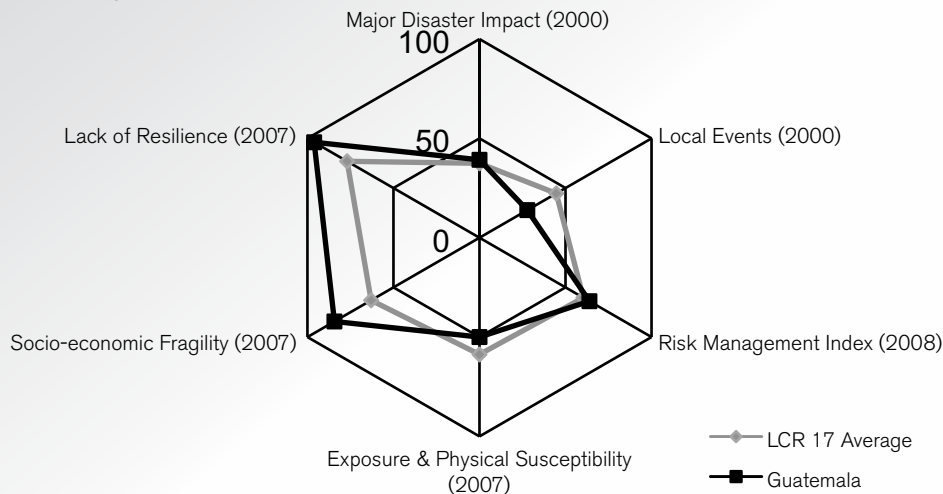
Population Affected by Disaster Type



Economic Damages / Disaster Type (1000s US\$)



Relative Vulnerability and Risk Indicators^c



^b UN (2009). <http://www.preventionweb.net/english/countries/statistics/?cid=70>. Source data from EM-DAT. Data displayed does not imply national endorsement.

^c Relative Vulnerability and risk Indicators are adapted from IADB-IDEA-ERN (2009). Values are normalized on scale of 0 – 100 and presented against the average for 17 LCR countries. Major disaster Impact taken from disaster deficit Index: the ratio of economic losses which a country could suffer during a Maximum Considered event and its economic resilience. Local events taken from Local disaster Index: the propensity of a country to experience recurrent, small-scale disasters and their cumulative impact on local development. risk Management Index is presented as the negative (i.e. 0 = optimal, 100 = incipient) of IADB's risk Management Index: measures a country's risk management capability in (i) risk identification, (ii) risk reduction, (iii) disaster management, and (iv) financial protection. resilience, Fragility and exposure are taken from the component indices of Prevalent Vulnerability Index. Date for local event data depends on information available for each country. Data, and the respective LCR 17 average, from 2000 is used for Dominican Republic, El Salvador, Guatemala, Jamaica and Nicaragua. Data, and the respective LCR 17 average, from 2006-08 is used for Bolivia, Colombia, Costa Rica, Ecuador, Panama and Peru. All LCR 17 averages are calculated based on available data.

DISASTER RISK PROFILE

According to the World Bank's Natural Disaster Hotspot study², Guatemala ranks 5th among countries with the highest economic risk exposure to three or more hazards. Guatemala is ranked as a high-risk country due to the vulnerability of its gross domestic product (GDP) to multiple hazards, with 83.3% of Guatemala's GDP located in areas at risk. As one of the most densely populated countries in Latin America, with approximately 13 million inhabitants in a territory of 108,890 square kilometers, the country is also one of the poorest in the region. Between 1902 and 2005, Guatemala experienced 62 natural disaster events, which affected approximately 6 million people.³

Exposure in Guatemala is to both low-frequency and high-impact events, such as earthquakes, volcano eruptions and hurricanes, and to high-frequency and low-impact events, such as floods and landslides. It is this combination of high population density, poverty, and exposure to natural hazards in Guatemala that constitutes a high risk to adverse natural events.

Geological Hazards

Guatemala is situated in a zone of high seismic risk due to the conjuncture of three tectonic plates: the North American plate, the Caribbean plate, and the Cocos plate. The most catastrophic adverse natural event in Guatemala would be an earthquake in Guatemala City, in the case of a 500-year event.

There are approximately 288 volcanoes in the country, 8 had been active in historic times, and 4 continue to pose a threat at present. The volcanoes of concern are: Fuego, Pacaya, Cerro Quemado, and Santiaguito.⁴ Volcanism in Guatemala exists as a result of the subduction of the Cocos plate beneath the Caribbean plate.

Hurricanes and Drought

Guatemala is exposed to two coasts, with the Pacific Coast more vulnerable to hurricanes, and the floods associated with them, especially at river mouths. The interior of Guatemala is greatly affected by drought; while the agricultural sector suffers the most, other important sectors such as water, energy, and health are also impacted.

In recent years, storms and droughts have had the highest human and economic impact in Guatemala. Losses during 1997-2010 averaged at 0.51 % of GDP, with storms (five events) affecting 749,991 people (around 5.8% of the country's population) with damage costs reaching US\$2 billion, and 113,596 people (around 1% of the population) affected by drought (1 event) with the costs of damages reaching US\$14 million.⁵

Floods and Landslides

Guatemala is continually affected by low-impact, high-frequency disasters, such as landslides and flooding. These disasters occur at local levels, largely due to the topography of the river basins and

² Dilley et al. (2005). Table 1.2.

³ See the hotspot study's Annex 6 for details on Guatemala's exposure to natural hazards and the number of reported disasters in Guatemala.

⁴ USGS (2002).

⁵ World Bank (2008a) and CEPAL-IADB-UNDP-WB-GFDRR (2010).

slopes and the exposure of the country to two coasts. Nearly 1,733 communities and 210,000 inhabitants are vulnerable to flooding with a total of 30% of the territory at high risk of flooding.

Determinants of Vulnerability to Adverse Natural Events

Vulnerability in Guatemala is due to a large extent to increased urbanization and insufficient planning. Guatemala is one of the most densely populated countries in Central America and unplanned urban growth has greatly increased population and infrastructure vulnerability. Given the high vulnerability of the country, natural hazard events result in disasters that have a high human cost and negative impact on productivity, which in turn delays developmental progress.

Guatemala is characterized by inadequate application and enforcement of building codes.

With increases in urban population and a lack of building code, both the population and infrastructure are increasingly at risk to natural hazards. This is compounded further by environmental degradation.

Informal settlements are also considered high-risk areas given the poor quality of housing construction and absence of building codes. These risks must be addressed to decrease vulnerability and mitigate disaster risk in Guatemala.

DISASTER RISK MANAGEMENT FRAMEWORK

The Government of Guatemala has placed disaster risk management (DRM) firmly in its development agenda. This is evident with the inclusion of DRM in the National Development Plan

(Plan de la Esperanza), and the National Program for Disaster Prevention and Reduction 2009-2011, approved in January 2009. The institutional coordinating mechanism that provides a legal framework for disaster prevention in the country and inter-ministerial coordination in cases of emergency is the National Coordinator for Disaster Reduction (CONRED in Spanish) and its Secretariat (SE-CONRED).

Over the last decade, the Government of Guatemala has moved towards a more proactive disaster risk management approach. The Government has passed two laws that demonstrate this commitment: the Social Development Law (Decree 42-2001) and the Law of Housing and Human Settlements (Decree 120-96). Both of these laws include the concept of disaster vulnerability reduction in development planning.

Guatemala has made substantial progress towards addressing vulnerability. The Social Development Law (Decree 42-2001) establishes that there is a reciprocal relationship between the advancement of development planning and reducing disaster risks. In Articles 37 and 38, the Ministry of Planning (SEGEPLAN in Spanish), in coordination with other government institutions, is charged with the strategy for disaster risk prevention and protection of vulnerable populations. In 2004, Project GUA 04/021 sought to strengthen capacities for reducing risk in development processes. The principal objective was to create an inter-institutional program with a vision to incorporate disaster risk management in development planning.

In addition, the Government has a National Program for Disaster Prevention and Reduction 2009-2011 (PNPMD in Spanish). This program focuses on enhancing risk monitoring and assessment, reducing risk, strengthening institutions, and developing risk financing strategies. It ensures a comprehensive disaster risk management strategy in the country.

Despite great progress the country has made in addressing disaster risk, Guatemala remains

vulnerable to disasters triggered by adverse natural events and continued attention by the Government of Guatemala is needed. Guatemala's economic and social development is regularly interrupted by earthquakes, volcanic eruptions, hurricanes, floods, and forest fires. Major disasters in Guatemala, such as the 1976 Earthquake, which resulted in more than 23,000 deaths and damages estimated at 17.9% of GDP, and Hurricane Mitch in 1998, which caused estimated damages of 4.7% of GDP, have crippling effects on the country's sustainable development and long-term growth.

ACTIVITIES UNDER THE HYOGO FRAMEWORK FOR ACTION

Hyogo Framework for Action (HFA) Priority #1: Policy, institutional capacity and consensus building for disaster risk management

The current Government in Guatemala has placed disaster risk management firmly among its development priorities. The *Plan de la Esperanza* 2008–2012, the policy program of the administration, focuses on increasing growth and reducing poverty and inequality. It articulates disaster risk management as a self-standing policy issue in the context of securing productivity. This demonstrates significant political commitment. The government is aware of the economic consequences of business interruptions associated with the transfer of funds to address a disaster caused by adverse natural events and acknowledges the importance of continuing efforts to reduce poverty and inequality.

Learning from recent disasters, Guatemala has made progress towards a more proactive disaster risk management system. The

establishment of the Social Development Law (Decree 42-2001) includes the concept of disaster vulnerability reduction and notions of demographics and development planning as contributors to risk scenarios. The Law of Housing and Human Settlements (Decree 120-96) mandates that all territorial entities take disaster risk into account in development planning.

The creation of the National Coordinator for Disaster Reduction (CONRED in Spanish) introduced disaster prevention in the disaster management system in Guatemala for the first time. CONRED works as a coordinating mechanism to provide a platform and legal framework for inter-ministerial coordination in the case of emergency, while also handling disaster prevention. It is supported by an Executive Secretariat (SE-CONRED) which is organized around seven work areas: coordination, financial management, comprehensive disaster risk management, response, preparedness, mitigation, and logistics. During a disaster, CONRED has the power to enlist the cooperation of all public institutions and any private bodies within their areas of competence.

Guatemala's National Program for Disaster Prevention and Reduction (PNPMD in Spanish) aims to articulate institutional and private-sector efforts to achieve sustainable development through initiatives that incorporate disaster risk management in development planning. The PNPMD is a program that addresses disaster risk reduction in a comprehensive manner. Designed with support from the United Nations Development Program (UNDP), the PNPMD includes four lines of action: (i) improving risk identification and monitoring; (ii) investing to reduce risk; (iii) strengthening institutional and planning capacity for risk management; and (iv) developing risk-financing strategies.

The PNPMD aims to significantly strengthen institutions and planning between 2009 and 2011. Programs include: (i) the formulation of the National Policy for Disaster Risk Management, which

involves all sectors and the development of a National Strategy for Disaster Risk Management, coordinated by SE-CONRED and involving both public and private institutions; (ii) the strengthening of SEGEPLAN's planning systems to incorporate risk concepts in public investments; (iii) the implementation of territorial planning in 12 municipalities by an inter-institutional committee involving SEGEPLAN, Ministry of Environment (MARN in Spanish), and Municipal Development Institute (INFOM in Spanish); and (iv) the establishment of a roundtable with private, academic, and international cooperation. Supported by UNDP and the World Bank, the Vice President's Office and SE-CONRED will coordinate these efforts and will convene at least twice a year.

HFA Priority #2: Disaster risk assessment and monitoring

Guatemala has strengthened risk identification and monitoring systems through the development of methodologies to analyze and evaluate hazards and vulnerabilities. The National Institute of Seismology, Volcanology, Meteorology and Hydrology (INSIVUMEH in Spanish) has developed an inventory of historical landslide event maps, implemented an early warning alert system for flooding in six water basins, and conducted hydrological studies in six basins. Various educational facilities have also been prepared for the technical study of monitoring and prognostic elements of the systems.

The PNPMD in Guatemala aims to significantly augment the effort to improve risk identification and monitoring over the next two years. This program includes projects that will advance the methodology to identify hazards, vulnerability, and risks, while strengthening national capacity to identify and monitor such risks. Key components of the sub-programs include: (i) a space to exchange existing methodologies on the analysis of risk and vulnerability, while creating new methodologies in a participatory

manner; (ii) the production of hazard risk studies on landslides and flooding, and vulnerability risk studies, especially analyzing the vulnerability of the most important water basins to determine population, infrastructure, and economic vulnerability; and (iii) the construction or strengthening of existing observation networks, particularly the technical and scientific capabilities of the INSIVUMEH.

In recent years, the Ministry of Agriculture (MAGA in Spanish) has made efforts to identify risk using Geographic Information System (GIS) tools on a very large scale. This has complemented the more traditional monitoring of natural hazards carried out by the INSIVUMEH, and the geographic and cartographic information produced by the National Geographic Institute of Guatemala (IGN in Spanish). MAGA has produced hazard maps for volcanic eruptions, developed at a scale of 1:50,000 with the support of Japan's International Cooperation Agency.

Risk evaluations of 250 geographic areas earmarked for relocation of families affected by Hurricane Stan were developed by the Secretariat of Agrarian Matters (Secretaría de Asuntos Agrarios, SAA) in 2006. The Gerencia de Riesgo, a professional risk evaluation group, worked with SAA in evaluating 50 additional geographic areas that continue to be affected by landslides and mudslides.

The Government has requested support for various technical assistance projects related to disaster risk management. Guatemala's Vice-President's Office, in coordination with the National Committee for Risk Management, is implementing a Technical and Scientific Information for Municipal Planning project, with financing from the Global Facility for Disaster Reduction and Recovery (GFDRR). This project was designed over a two-year period in a participatory process with institutions including INSIVUMEH, MAGA, SE-CONRED, SEGEPLAN, and the relevant municipalities.

Guatemala is working to strengthen risk identification at the municipal level in order to integrate this knowledge into territorial development planning. This activity, funded by a GFDRR grant, will help hazard-prone municipal governments to include risk considerations in their territorial development process. The project will: (i) develop scientific information on hazards, vulnerability, and risk; ii) provide specific risk information for land use and urban zoning; and (iii) provide scientific information for emergency plans. The information provided will help local authorities place appropriate controls to avoid future generation of risks and will also aid in the design of risk mitigation programs. The project, supported by the GFDRR, includes the seismic building codes updated by the Guatemalan Association of Seismic Engineers (AGIES in Spanish) that could be adopted by different municipalities.

Currently, the Inter-Institutional Committee for Risk Reduction led by the Vice-Presidency of Guatemala, has finished strategic studies with the support of the Global Facility for Disaster Reduction and Recovery (GFDRR). This is a new effort in four basins focused on natural hazard maps for floods and landslides at a 1:25,000 scale, with an action plan for risk reduction in the basins of the rivers Coyolate, Nahualate, Madre Vieja, and Suchiate.

SEGEPLAN is working on Spatial Data Infrastructure for Guatemala to support disaster risk management and the national planning. This is an initiative designed by SEGEPLAN in order to share the spatial data generated by different institutions with the concept of information updated by each institution according to its role. This initiative will save time and cost for planners, and is named SINIT (Spanish for the National System Information for Territorial Planning).⁶

⁶ <http://ide.segeplan.gob.gt>.

⁷ Regional Coordinator for Disaster Reduction.

⁸ Municipal Coordinator for Disaster Reduction.

⁹ Local Coordinator for Disaster Reduction.

¹⁰ <http://conred.gob.gt>.

SE-CONRED has developed an early warning alert system for the Fuego Volcano. This is aimed at reducing risk in the Escuintla, Sacatepequez and Chimaltenango Departments. The initiative was supported by Japan's International Cooperation Agency.

The Government of Guatemala is not yet in a position to identify or monitor needs for investments in risk reduction across sectors.

The Government of Guatemala also lacks capacity to provide a strategic overview of hazard exposure or contingent risk for the country as a whole or for different sectors. To address this challenge, the Government has drafted a new regulation to strengthen the mandates of CONRED, SE-CONRED, CORRED⁷, COMRED⁸, and COLRED⁹ to document and monitor disaster risk, as well as to promote prevention and mitigation activities. In addition, the new regulation for the Law of CONRED has been prepared and requires that all public infrastructure investments comply with seismic building codes. The regulation is ready for the President's signature and, if approved, could have a significant positive impact on risk reduction in future investments.

HFA Priority #3: Use of knowledge, innovation, and education to build a culture of safety and resilience at all levels

Guatemala has taken steps to include disaster risk reduction concepts in the educational sector.

This is demonstrated by the scientific knowledge program to identify high-risk areas, the introduction of the subject disaster reduction in primary and secondary schools, the strengthening of the disaster documentation center, the national campaign "We Can Act", the raising of awareness by the media, and finally, the consolidation of the CONRED website.¹⁰



Guatemala City

Guatemala is working with CEPREDENAC, the UN ISDR, IADB, and the World Bank to develop the Central American Probabilistic Risk Assessment (CAPRA) platform¹¹, an innovative initiative with a strong educational element. CAPRA helps facilitate a comprehensive understanding of risk and risk management. The platform enables governments and scientific communities to identify and evaluate the sources of potential losses (both geographically and by sector) from disasters, risk reduction investment opportunities, and government capacity to finance and manage recovery operations. This knowledge provides the basis to formulate strategies and policies to strengthen the national risk prevention and emergency management system, and to develop a comprehensive risk financing strategy. It is

anticipated that CAPRA software will be included in university curricula.

HFA Priority #4: Reduction of the underlying risk factors (reduction of exposure and vulnerability and increase of resilience)

The PNPMD aims to significantly augment investments in risk reduction over the next two years. The main components of the program include: (i) developing national standards for including disaster risk assessment in construction planning; (ii) elaborating National Regulation for the Construction of Schools and guidelines for its application; (iii) the implementation of a public infrastructure auditing

¹¹ <http://ecapra.org>.

program through the National General Auditing Agency (*Controloría General de Cuentas*); (iv) two pilot programs in Guatemala City to transform high-risk zones into secure zones; and (v) identification of mitigation works in river basins managed through the Water Cabinet.

A series of risk reduction activities that incorporate mitigation and guarantee safe construction, especially in the health and education sectors, have been earmarked. These initiatives include the development of building codes; national regulations for hospitals and schools combined with municipal disclosure of these codes; infrastructure auditing; works to prevent landslides (retaining walls, slope reinforcements); rehabilitation and maintenance of road infrastructure; and integrated management of river basins. The Vulnerability Reduction and Environmental Degradation Regional Project (PREVDA in Spanish) has already been initiated.

SE-CONRED developed and disseminated better-construction standards according to risk assessment methodologies post-Hurricane Stan. The methodology was developed in coordination with line ministries responsible for reconstruction as well as the rehabilitation and retrofitting of public buildings. The aim is to introduce construction standards that result in better and safer buildings on the basis of risk assessment methodologies. Although SE-CONRED does not have the capacity to supervise the processes nor to monitor to what extent the methodology is being followed, the methodology has been passed on to implementing agencies that have been encouraged to use this for construction and rehabilitation activities.

COVIAL (*Unidad de Conservación Vial, or the Road Conservation Unit*) is overseeing the implementation of investments in river dredging and the strengthening of river banks to prevent

significant adverse impacts of natural events on road infrastructure. These investment decisions are made on the basis of documented cost for road maintenance. In areas where COVIAL experiences significant recurrent costs of rehabilitation of the road network due to the impacts of floods, the agency invests in flood prevention as a cost-minimizing strategy. Over the last five years, COVIAL has dredged more than 150,000 cubic meters of rivers and canals per annum.

INSIVUMEH has developed landslide event maps to improve land use planning. As a result of the development of these maps, there has been substantial investment in the upgrading and expansion of monitoring networks.

Disaster risk management is not yet explicitly part of the land use planning processes, but authorities are working towards a screening process for both public and private investment. SEGEPLAN has developed a methodology that will help territorial entities integrate disaster reduction and recovery into land use planning. This is a significant first step for developing the instruments and capacities that will allow the territorial entities to effectively manage their development planning in a way that reduces the construction of new risk.

Despite progress, Guatemala does not have a systematic investment program for risk reduction. Interventions in risk reduction have generally been done in an ad hoc manner. The Government of Guatemala does not track or monitor investments in risk reduction across sectors.¹² This means that there is little understanding of the significance or effectiveness of these investments in reducing the disaster risk exposure of the country or even of specific geographic areas in the country; this makes it difficult to demonstrate results in terms of risk reduction activities. Nevertheless, some of the ad hoc activities represent significant investments and have been good starting points to reduce the country's disaster risk.

¹² Recently, the Ministry of Finance has developed the budgetary classification for monitoring public investments in risk reduction, which is currently in implementation phase.

HFA Priority #5: Disaster preparedness, recovery and reconstruction at national, regional, and local levels

The institutional structure for disaster risk management in Guatemala is organized around CONRED and is replicated in regional (Regional Coordinator for Disaster Reduction – CORRED), municipal (Municipal Coordinator for Disaster Reduction – COMRED), and local (Local Coordinator for Disaster Reduction – COLRED) committees. These committees include representatives from public agencies, private sector and civil society organizations, and are convened by the most senior government representative in the relevant locality. Delegates of SE-CONRED support the committees, whose main functions are to (i) coordinate disaster prevention and response activities; (ii) relay information to the next level of the system; and (iii) implement actions relating to alerts, evacuation, security, and emergency shelter.

Until recently, Guatemala has relied on ex-post budget allocations to respond to disasters caused by adverse natural events. In the past, financing for disaster response and reconstruction was almost entirely allocated after the disaster event through two mechanisms: (i) the National Fund for the Reduction of Disasters, coordinated by CONRED and financed according to the guidelines provided by the National Plan for Disaster Prevention and Response (each year the fund receives US\$2 million from the national budget, the *Presupuesto General de Ingresos y Egresos del Estado*); and (ii) on an event-by-event basis. CONRED coordinates the implementation of reconstruction with additional funding via budget reallocations by the Ministry of Finance. The funds are generally channeled to three entities that are responsible for implementing and managing rehabilitation and reconstruction projects after disasters: the *Unidad de Conservación Vial* (COVIAL), which manages the funds allocated to the maintenance of the road network; the *Fondo Nacional para la Paz* (the National Fund for Peace, or

FONAPAZ), which develops and implements projects to eradicate poverty and extreme poverty (communal buildings, halls, sport fields, and recreation, education, and nutritional programs); and the *Secretaría Coordinadora Ejecutiva de la Presidencia* (SCEP)/ *Unidad de Convoyes Regionales*, a unit specializing in the implementation and management of construction and maintenance projects of rural roads.

Guatemala’s Ministry of Finance is preparing a comprehensive strategy to cover contingent liabilities that will include adverse effects of natural events. The Catastrophe Deferred Drawdown Option (CAT DDO) is included as one of the elements in this strategy. The National Program for Disaster Prevention and Reduction in Guatemala outlines three specific areas where the Government will advance towards this strategy over the next two years. The objective of these activities is to improve the government’s capacity to mobilize and efficiently execute resources in case of disasters. The three specific areas are: (i) viability studies for a tag system in the budget by the Ministry of Finance, identifying resources in the budget that may be dedicated to disaster risk management; (ii) an analysis of the fiscal exposure to adverse natural events, which will also determine in which way investments lost after a disaster may be recovered; and (iii) a feasibility study to determine the Ministry of Finance’s ability to maintain a contingency fund for disasters.

Despite great progress, local community capacity to prepare for, and respond to, disasters caused by adverse natural events should be improved and strengthened. During the last 10 years, the response and preparation capabilities in Guatemala have improved; however, Hurricane Stan, the 2008 floods, and recently Tropical Storm Agatha and the Pacaya Volcano eruption in May 2010, revealed that despite good response capabilities at the municipal level, CONRED response skills remain weak at the local level and require additional support to be adequately prepared in the future.

KEY DONOR ENGAGEMENTS

Existing Projects with Donors and International Financial Institutions	Funding Agency / International Partners	Allocated Budget and Period (US\$)	HFA Activity Area(s)
Modernization and updating of the meteorological system in Guatemala	Central American Development Bank (BCIE)	12.5 million	2
Program for the Reduction of Vulnerability and Environmental Degradation Guatemala (PREVDA)	European Commission	3.34 million 2007-2011	2, 3
Development of scientific information to promote municipal planning to reduce disaster risks	World Bank (GFDRR)	730,000 2008-2010	1, 2, 3, 4
Disaster risk management development policy loan with a Catastrophe Deferred Drawdown option (CAT DDO)	World Bank	85 million 2009-2011	1, 2, 3, 4, 5
Strengthening of Information and Communication for CEPREDENAC and National Commissions	World Bank	446,000 2007-2009	1, 2
Development and application of a Risk Assessment Platform for Guatemala (CAPRA)	IADB	350,000 2009-2010	2, 3
Community Risk Management and risk mapping with local actors	GTZ	not available	2, 3, 4
National Policy for Risk Reduction in Guatemala	IADB	750,000 2009-2010	1
Institutional support to technical groups related with risk reduction	UNDP	90,000 2009	1, 3
National program for risk reduction on the reconstruction process PROREC	UNDP, Sweden, Norway, USAID	13 million 2007-2010	
Regional Program of Environment in Central America (PREMACA)	Danish Cooperation (DANIDA)	not available	2, 4
Earthquake Risk Reduction In Guatemala, El Salvador and Nicaragua With regional cooperation to Honduras, Costa Rica and Panama (RESIS II)	Norway	2.4 million 2007-2010	2
Strengthening of CEPREDENAC and National Commissions for disaster vulnerability reduction in Central America	Spanish International Cooperation Agency	130,000 2005-2009	1
Regional Plan for Disaster Reduction (PRRD)	Norway, Spanish International Cooperation Agency	400,000 2006-2011	1
Development of disaster risk management capacity at the local level	Japan International Cooperation Agency	300,000 2008-2011	2, 4
Mesoamerican coordination system for territorial information	IADB	800,000 2009-2011	2
Strengthening of communication systems at national and regional levels (Regional program)	China (Taiwan)	1,130,000 2009-2011	3
Capacity Building for Risk Management in Central America (BOSAI)	JICA	2,500,000 2007-2012	1, 2
Urban Risk Reduction (Guatemala, Costa Rica, El Salvador, Honduras)	UNDP	300,000 2009-2010	3, 4
Action Plan AECID-CEPREDENAC (Regional level)	Spanish Cooperation for International Development (AECID in Spanish)	763,750 2009-2010	1, 2
Strengthening of CAPRA Implementation (Regional Level)	CEPREDENAC	50,000 2010	1, 2



GLOBAL FACILITY FOR DISASTER REDUCTION AND RECOVERY (GFDRR): ACTION PLAN

Given Guatemala's disaster risk profile and its existing framework for disaster risk management, the key priority is to implement the recently approved national program for disaster risk management. Strategic actions are needed in the following areas in Guatemala: (i) strengthen institutional capacity for strategic planning and coordination, (ii) mainstream disaster risk reduction in specific sectors,

and (iii) develop a comprehensive risk assessment and monitoring capacity.

The following activities have been identified in consultation with local authorities and international donor agencies. These activities are built on the PNPMD and the current GFDRR grants for Guatemala, which are coordinated by the same agencies (CONRED, Vice-Presidency) that would coordinate the proposed activities. These actions support Guatemala's disaster risk management program and reflect HFA priority action areas.

Indicative Program for GFDRR Funding (Projects and engagement areas being considered for GFDRR funding)	Implementing Agency / International Partners	Indicative Budget and Period (US\$)	HFA Activity Area(s)²
Support for the development of territorial planning that integrates disaster risk considerations at the municipal level	INSIVUMEH, Municipalities	1.4 million 2009-2012	1, 2, 4, 5
Technical assistance to support the national program for disaster risk reduction and mainstreaming disaster risk reduction in other sectors	Vice-Presidency, CONRED, Ministry of Finance	800,000 2009-2011	1, 2, 3, 4
Studies and designs for mitigation measures for critical infrastructure	CONRED	1.2 million 2009-2010	1, 3, 4
Mitigation works in key sectors that will be identified during implementation of the PNPMD	Sectoral Ministries, Municipalities	980,000 2009-2011	1, 4
Support for the development a Risk Assessment Platform for Guatemala	Vice-Presidency, CONRED, Universities, Sectoral Ministries, INSIVUMEH	564,000 2009-2010	1, 2
Initial Budget Proposal:		US\$4.944 million	

In addition to the above-mentioned activities, ongoing dialogue with national and local officials will continue to identify disaster risk management measures that consider climate change as part of their adaptation strategies.

² HFA Priority Action Areas: 1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation; 2. Identify, assess, and monitor disaster risks—and enhance early warning; 3. Use knowledge, innovation, and education to build a culture of safety and resilience at all levels; 4. Reduce the underlying risk factors; 5. Strengthen disaster preparedness for effective response at all levels.



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