SUSTAINABLE DEVELOPMENT UNIT ■ LATIN AMERICA AND THE CARIBBEAN

Disaster Risk Management in Latin America and the Caribbean Region:

GFDRR Country Notes

Honduras

THE WORLD BANK

GFDRR
Global Facility for Disaster Reduction and Recovery

COUNTRIES AT RELATIVELY HIGH MORTALITY RISK FROM MULTIPLE HAZARDS (Top 96 Based on population with 2 or more hazards)[a]
1. Bangladesh
3. Dominican Republic
5. Haiti
8. El Salvador
9. HONDURAS
10. Guatemala
12. Costa Rica
17. Nicaragua
26. Ecuador
28. Colombia
37. Peru
47. Montserrat
55. Mexico
61. Belize
63. United States
96. Thailand

[a] Dilley et al. (2005). Table 1.2.

Hurricane Fifi struck Honduras in September 1974, killing around 8,000 people – the actual number of people killed is unknown.

HONDURAS

Natural Disasters from 1980 - 2008[b]

Affected People

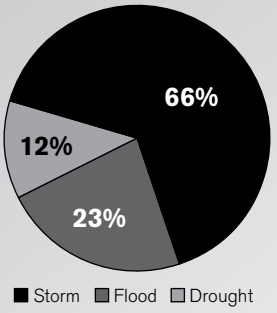
Disaster	Date	Affected (Number of People)
Storm	1998	2,112,000
Flood	1999	503,001
Flood	2008	313,357
Drought	2001	195,000
Drought	2004	137,500
Storm	2005	90,000
Storm	2001	86,321
Drought	2002	82,000
Flood	1996	75,000
Flood	1993	67,447

Economic Damages

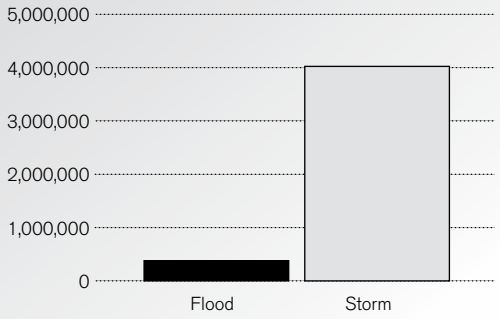
Disaster	Date	Cost (US$ x 1,000)
Storm	1998	3,793,600
Storm	1982	101,000
Flood	1990	100,000
Flood	2002	100,000
Storm	2005	100,000
Flood	1993	57,600
Flood	1993	57,700
Flood	1996	31,000
Flood	2003	20,000
Storm	2005	15,500

Statistics by Disaster Type[b]

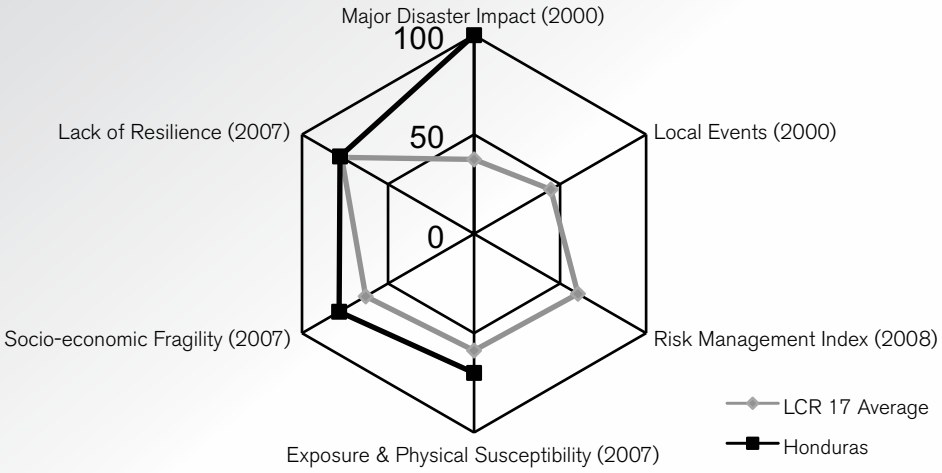
Population Affected by Disaster Type



Economic Damages / Disaster Type (1000s US$)



Relative Vulnerability and Risk Indicators[c]



[b] UN (2009). http://www.preventionweb.net/english/countries/statistics/?cid=76. 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

Honduras ranks 9th among countries at relatively high mortality risk from exposure to two or more hazards, according to the Natural Disaster Hotspot study[1] by the World Bank.

The same study also ranks Honduras 24th among countries with the highest economic risk exposure from two or more hazards.

Honduras is the second largest country of Central America, with an area of 112,088 square kilometers, and the second most populated. Honduras is also the third poorest country in the Western Hemisphere.[2] Two thirds of the Honduran population are poor (with per capita income less than US$1.50 a day); and three out of every four poor people are extremely poor (with per capita income less than US$1 a day). In addition, about half of the population of Honduras is rural, and 80 percent of the rural population lives in hillside areas[3], practicing subsistence agriculture, with the limitations of small-sized holdings, primitive technology, and low productivity that characterize hillside cultivation. Increasing land degradation and low agricultural productivity are major drivers of Honduras' rural poverty.[4]

Honduras' rural economy relies heavily on very few agricultural products, particularly bananas and coffee, making it vulnerable to natural disasters and shifts in commodity prices. Investments in the maquila and non-traditional export sectors are slowly diversifying the economy. Economic growth was expected to decline in 2009 as a result of a reduction in exports to the United States - its main trading partner.[5] Remittances from Hondurans living abroad account for 19.6 percent of GDP.[6] According to the Human Development Report of 2009[7], Honduras exhibits the second lowest score of human development indicators (HDI value of 0,700[8]) in the Central American region. The report also highlights Honduras' GINI inequality index for income distribution of 54.

Geography and Climate

Bordering the Caribbean Sea on the north coast and, through the Gulf of Fonseca, the Pacific Ocean on the south, Honduras has three distinct topographical regions. First, an extensive interior highland area, which encompasses approximately 80 percent of the territory where the majority of the population resides, is characterized by poor soils and low agricultural productivity. Second, a depression runs across the highlands, from the Caribbean Sea to the Gulf of Fonseca, splitting the country's cordilleras and providing a relatively easy transportation route across the isthmus.[9] Third, there are abundant small to large valleys, ranging in elevation between 300 and 900 meters. The floors of the large valleys provide sufficient grasses and weeds to support livestock and, in some cases, enough area for commercial

[1] Dilley et al. (2005).
[2] USAID (2009a).
[3] Jansen et al. (2006a).
[4] Jansen et al. (2006b).
[5] CIA (2009).
[6] CATHALAC (2008).
[7] UNDP (2007).
[8] 2005's Human Development Index (HDI) Ranks for Central American Countries, including Panama: Country, (HDI Rank), HDI value: Costa Rica, (48), 0.846; Panama, (62), 0.812 ; Belize, (80), 0.778 ; El Salvador, (103), 0.735; Nicaragua, (110), 0.710; Honduras, (115), 0.700; Guatemala, (118), 0.689. Source: UNDP 2007.
[9] Wikipedia (2009e).

agriculture. Villages and towns, including the capital, Tegucigalpa, are located in the larger valleys. The climate varies from tropical in the lowlands to temperate in the mountains. The central and southern regions are relatively hotter and less humid than the northern coast. The Caribbean lowlands, especially in the northeast, are the wettest regions in the country. Distinct wet and dry season characterize the Pacific lowlands and interior highlands. May through September are the wettest months.[10]

A major environmental challenge affecting Honduras is the extensive land degradation and deforestation resulting from logging and clearing of land for agricultural and cattle ranching. Uncontrolled development and unsustainable land use practices such as farming of marginal lands and mining activities are also polluting major sources of drinking water for the population.[5] By 1987 it was estimated that about 750,000 hectares of Honduran land had already been seriously eroded as a result of cattle ranching on unsuitable areas and slash-and-burn agriculture.[11] Such unsustainable practices continued and by 1998, when Hurricane Mitch struck Honduras, large tracts of lands were severely degraded, reducing the soil ability to capture excess moisture and exacerbating the damage caused by the extensive flooding.

According to the FAO "Global Forest Resources Assessment 2005"[12], by 1990, forest cover in Honduras was estimated at 65.9 percent of the country's total area. By 2005, extant forest area was estimated at 41.5 percent of the territory. In a period of 15 years 37.1 percent of the country's forest cover (equivalent to 24 percent of the country's total area) was lost.

Major Natural Hazards

Honduras' major natural hazards are the tropical storms and hurricanes that frequently strike the country, generating extensive flooding along the north coast and other regions.[13] Hurricane Fifi in 1974 and Hurricane Mitch in 1998 affected large portions of the country's population, causing major economic damages.

The Honduran geography is prone to large landslides and mudslides set off by torrential rains and hurricanes. In 1998, Hurricane Mitch's torrential rainfall over Honduras flooded extensive regions and triggered thousands of landslides, destroying an estimated 70 percent of the country's crops and 70 percent of the nation's transport infrastructure. Economic damage was estimated at more than US$3 billion.[14]

Honduras has been mostly unaffected by the frequent earthquakes and volcanic activity that characterize other Central American countries. However, the country is not immune to these hazards, as evidenced by the magnitude 7.1 earthquake that struck Honduras on May 28, 2009, killing 7 people and causing more than US$35 million in damages to infrastructure alone. Total estimated losses amounted to US$100 million. Several other lower-intensity aftershocks hit the country (including a 5.7-magnitude quake on June 8, northwest of the Caribbean coastal town of La Ceiba), causing unrest among the local population and unsettling tourists at the Bay Islands, as government officials warned the population of the potential risk of an earthquake-generated tsunami.

[10] Library of Congress (1993).
[11] Ibid.
[12] Food and Agriculture Organization (2005b).
[13] USAID (2009b).
[14] BBC News (2009).

Natural Disaster Data from Honduras published on the Prevention Web site[15] indicate 50 natural disaster events for the period 1980 to 2008. The number of people killed during those events was reported as 15,548, with 96 percent of the deaths caused by storms (an estimated 5,600 deaths caused by Hurricane Mitch alone[16]), and 4 percent by floods. Out of a total 3,601,379 people reported affected, 66 percent were attributed to storms, 23 percent to floods, and 12 percent to droughts. The economic damage caused by storms and floods was estimated at US$4.41 billion.

Storms and Floods

Hurricane Fifi struck Honduras in September 1974, killing around 8,000 people[17] – the actual number of people killed is unknown. Estimates ranged between 3,000 and 10,000 people, as a result of the combined action of the hurricane-force winds, extensive flooding and the large number of landslides that occurred during the passing of the hurricane. Agricultural production was also severely affected, with about 95 percent of the banana production of that year destroyed, and two fifths of the country's livestock drowned. Most of the Honduran fishing fleet and the main Caribbean coast facilities at Puerto Cortes - the country's most important seaport - were also destroyed. Total estimated damage caused by Hurricane Fifi amounted to US$900 million.[18]

Hurricane Mitch struck Central America in October of 1998, leaving a path of devastation and thousands of people killed.[19] In Honduras, Mitch dumped excessive rainfall that overwhelmed the country's natural watersheds' drainage capacity, causing major rivers to overflow, resulting in extensive flooding and thousands of landslides through the country.[20] Honduras' transportation infrastructure was devastated, leaving 90 bridges and nearly all secondary roads severely damaged or destroyed. Some 33,000 homes were destroyed and 50,000 more were damaged. The devastation was so pervasive that many existing maps needed to be redrawn. Widespread flooding was partially caused by Honduras' highly eroded mountainsides and slash-and-burn agricultural practices that rendered the soils unable to absorb excess moisture. About 75 percent of the country's population (4.5 million people) lost access to safe drinking water and sanitation services.[21] Government authorities estimated that in just a week Honduras fell back three decades in its efforts to attain universal access to safe drinking water and sanitation.[22] Economic damage caused by Hurricane Mitch was estimated at about US$3.8 billion.[23]

In 2005 Honduras was hit by another major hurricane. Although Hurricane Stan's staggering human toll was mostly concentrated in Guatemala, in Honduras it also left seven people dead, destroyed 2,475 homes, and forced 7,000 people into shelters.[24] Total economic losses were estimated at US$100 million.

[15] PreventionWeb (2009c).
[16] The actual number of human lives lost to Hurricane Mitch may never be known. As of December 2003, Honduran authorities indicated that 12,000 Hondurans were either killed or still missing as a result of the damage caused by Mitch. See UNDP and CEPREDENAC (2004).
[17] NOAA (2005).
[18] Wikipedia (2009f).
[19] BBC News (1998).
[20] Wikipedia (2009a).
[21] Some 1,700 drinking water systems were damaged.
[22] Clarke and Pineda Mannheim (eds., 2007).
[23] IADB (2009a).
[24] Wikipedia (2009b).

Landslides

Human losses and damage caused by landslides in Honduras have been extensive. During Hurricane Mitch, some 25 small villages were entirely destroyed by landslides and mudslides. Local disaster risk experts indicated that since Hurricane Mitch's catastrophic events, the country has become even more vulnerable to landslides exacerbated by widespread deforestation and soil degradation that increase the exposure and vulnerability of the population.[25] In November of 2008, in the aftermath of tropical storm Paloma (which killed 67 and directly affected an estimated 320,000 Hondurans), the United Nations deployed a team of geologists to help local authorities identify landslide- and mudslide-prone areas.[26]

Droughts

Honduras has been suffering from periodic droughts, with increasingly negative effects among the country's most vulnerable groups. For instance, in 2001, the Government of Honduras (GoH) declared a state of emergency in eight provinces where thousands of farmers were impacted by a long drought that devastated crops all across Honduras and other Central American countries. This was considered by local farmers and international experts as the worst drought in Central America since 1997, when an ENSO episode seriously disrupted the normal rainy season in the region. With the support of the United Nations World Food Program, the GoH coordinated the distribution of food relief aid for some 20,000 affected farmers.[27]

The Red Cross later reported that child malnutrition in the areas affected by the drought grew from 2.7 to 5.9 percent between July and November of 2001. The expectations were that the percentage of children affected by malnutrition would continue to grow, considering that the drought destroyed 135,064 tons of crops, the main source of income and food of 68,805 affected peasant families. In Central America, peasants sow and harvest their crops twice a year, with the first harvest providing about 65 to 70 percent of the annual harvest. The first harvest of 2001 was severely affected by the drought, causing the loss of between 40 and 100 percent of the projected harvest for that year.[28] Once again, in 2004, another severe drought affected more than a quarter of a million people in Honduras, destroying some 59,400 hectares of crops in 23 municipalities in the provinces of Francisco Morazán, Choluteca, Valle and El Paraíso. The GoH declared a regional food emergency to facilitate the delivery of relief aid to the drought-affected areas.[29]

Exposure and Vulnerability

Honduras' vulnerability to natural disasters has increased dramatically in recent decades, with nominal losses estimated at US$4.7 billion, or nearly half the total losses for the Central American region since 1974.[30]

Much of the impact of Hurricane Mitch in Honduras was the result of the combined and compounded effect of hurricane force winds, extensive flooding and the large number of landslides, exacerbated by the environmental degradation conditions that have occurred over

[25] BBC News (2008).
[26] PreventionWeb (2008b).
[27] BBC News (2001).
[28] Tierramerica (2001).
[29] World Food Programme (2004).
[30] IADB (2009b). Also posted at http://www.reliefweb.int/rw/rwb.nsf/db900SID/LSGZ-7TDGVX?OpenDocument&rc=2&emid=EQ-2009-000108-HND.

several decades[31] and continue to this date. The deforestation and rural-urban migration that created such high vulnerability to Mitch were largely due to the extensive poverty in the area.[32] Data collected in the aftermath of Hurricane Mitch indicated that poor rural households lost 30 to 40 percent of their income from crop production. Poverty increased by eight percent, from 69 to 77 percent at the national level.

Climate Change and Global Warming

Climate Change models[33] have predicted that Honduras will undergo a warming and drying trend and is expected to endure more frequent heat waves and droughts, increased-intensity rainfalls, and rising sea levels, as predicted for the rest of Mesoamerica.[34] Additionally, potential climate change impacts in the Central American region include higher storm intensities and, possibly, more frequent ENSO[35] events, exacerbating existing health, social and economic issues affecting Honduras.

Honduras signed and ratified, in July of 1995, the United Nations Framework Convention on Climate Change (UNFCCC)'s Kyoto Protocol. As a non-Annex I Party to the Protocol, Honduras is not bound by specific targets for greenhouse gas (GHG) emissions. Pursuant to the protocol the Government of Honduras submitted its First National Communication (FNC) to the UNFCCC in 1999. The preparation of the report was delegated to the Secretary of Natural Resources and Environment (SERNA)'s Climate Change Unit. The report included the First National Inventory on GHG Emissions, with 1995 data as its base year.[36] According to the Inventory, agricultural activities, combined with land use change and timber extraction activities, accounted for 77 percent of total emissions in 1999. The FNC indicated, as future impacts from climate change, varying increases in temperature and rainfall in the different regions of the country. The highest rainfall reduction is projected to occur during the months of November and April.[37]

Honduras' population in 2004 was estimated at about 0.1 percent of the world's population. In the same year Honduras accounted for less than 0.1 percent of the world's total carbon dioxide (CO2) emissions, with an average of 1.1 tons of CO2 per person. Honduras' emission levels are below those of Latin America and the Caribbean.[38]

DISASTER RISK MANAGEMENT FRAMEWORK

The Honduran Legislature approved Legislative Decree No. 9-90E, "Law of National Contingencies" (Law 9-90E) on December 18, 1990, mandating the creation of the Standing Commission of Contingencies (Comisión Permanente de Contingencias, COPECO), defining its main responsibilities and authority as follows: "COPECO's main objective will be the

[31] UNDP (2004).
[32] Freeman et al. (2003).
[33] Hadley Centre Coupled Model, Version 2 (HADCM2), as reported in Mulligan (2003). Same modeling data as used by the Intergovernmental Panel on Climate Change (IPCC).
[34] Giannini et al. (2002).
[35] El Niño-Southern Oscillation; commonly referred to as simply El Niño, a global coupled ocean-atmosphere phenomenon.
[36] Government of Honduras. *"Preparación de la Segunda Comunicación Nacional de Honduras a la Convención Marco de Naciones Unidas sobre Cambio Climático."* Funding Appeal presented to the Global Environmental Facility (GEF), in the amount of US$405,000, to support the Institutional Strengthening of the Secretary of Natural Resources and Environment [SERNA] for the preparation of Honduras' Second National Communication to the UNFCCC.
[37] World Bank (2008b).
[38] UNDP (2007).

adoption of measures and policies aimed at response, rehabilitation and reconstruction of damaged areas resulting from natural phenomena that affect economic activity and the population's well-being, as well as to program and develop various activities towards preventing negative impacts in the areas most frequently affected by such phenomena."

Law 9-90E was later amended by Legislative Decree No. 217-93 (Law 217-93), approved on October 13, 1993. The preamble of Law 217-93 described the main reason for the amendment as follows: "There is a need to improve coordination among public and private sectors on prevention, planning and implementation of aid, rescue, rehabilitation and other activities needed to overcome the effects of natural disasters such as floods, droughts, hurricanes and other public calamities." The two main changes included into the Law of National Contingencies were: 1) Article 4 mandated the designation of COPECO representatives at the municipal level: "COPECO will be headquartered in Tegucigalpa… with jurisdiction over the National Territory, and will maintain regional, departmental and municipal representatives." 2) Article 6 expanded COPECO's executive body by adding representatives from the Honduran Legislature and the Catholic Church. COPECO comprises the following: a) the President of the Republic or his/her representative, who will preside; b) a representative of the Republic's Supreme National Congress, c) the Secretary of Governance and Justice; d) the Secretary of National Defense and Public Safety; e) the Secretary of Public Health; f) the Secretary of Finance and Public Credit; g) the Secretary of Planning, Coordination and Budget; h) the President of the Central Bank of Honduras; i) a representative of the Catholic Church; j) a representative of the Private Sector, designated by the Federation of the Commerce and Industry Chambers (FEDEHCAMARA); k) a representative of the peasants' associations; and l) a representative of the Honduran Red Cross.

Honduras participates in several regional Disaster Risk Management forums including the Coordinating Center for the Prevention of Natural Disasters in Central America (CEPREDENAC), a specialized regional DRM entity within the Central America Integration System (Sistema de Integración Centroamericano, SICA). Additionally, in 2005, Honduras adopted the recommendations of the strategic objectives and priority actions of the "Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters" (HFA). COPECO is the national focal point to the HFA.

A major step towards strengthening the legal and institutional framework supporting disaster risk management in Honduras has been the approval of the National Territorial Zoning Law and its regulation. Legislative Decree No. 180-2003, Law of National Territory Zoning, was enacted on November 28, 2003, with its regulation approved by Executive Decree No. 25-20042 in September 2004. The Law of Territorial Zoning defined the Government of Honduras' policies with regard to the integral development of the national territory, and ordered the creation of a National Plan of Territorial Zoning, as well as the development of Departmental and Municipal Territorial Zoning Plans - hierarchically and strategically linked to the National Plan to ensure the implementation of complementary local and regional territorial zoning strategies. The Law also mandated the creation of a National Directorate of Territorial Zoning (*Dirección General de Ordenamiento Territorial,* DGOT), and a National Council of Territorial Zoning (*Consejo Nacional de Ordenamiento Territorial,* CONOT). The CONOT comprises the Secretaries of: 1) Governance and Justice (who presides); 2) Natural Resources and Environment; 3) Agriculture and Livestock; 4) Education; 5) Health; 6) Public Works, Transport and Housing; 7) Finances; 8) the Minister-Director of the National Agrarian Institute (INA); and representatives of the following government and civil society organizations: 9) Standing Commission of Contingencies (COPECO); 10) Honduran Association of Municipalities (AMHON); 11) ethnic bodies; 12) Peasants' Associations; 13)

Workers' Associations; 14) Honduran Federation of Trusts; 15) Honduran Professional Associations; 16) Honduran Council of Private Enterprise (COHEP); 17) women's organizations; 18) youth organizations; 19) a representative of the Honduran universities; and 20) a representative for each legally registered political party.

The CONOT is managed by an executive body (*Comité Ejecutivo de Ordenamiento Territorial*, CEOT). This executive body comprises 1) the Secretary of Governance and Justice (who coordinates); 2) the Secretary of Natural Resources and Environment; 3) the Secretary of Education; 4) the Secretary of Public Works, Transport and Housing; 5) the Secretary of Agriculture and Livestock; 6) The Commissioner of the Standing Commission of Contingencies (COPECO); and 7) the Executive Director of the Association of Honduran Municipalities (AMHON). The CEOT is authorized by law to create any task forces or committees as needed to suit specific needs. The creation of the following committees was already mandated by law: 1. Interagency Technical Commission on Lands (*Comisión Técnica Interagencial de Tierras*, CTIT); 2. Interagency Technical Commission on Spatial Data *(Comisión Interagencial de Datos Espaciales,* CIDES); 3. National Risk Management Commission (*Comisión Nacional de Gestión de Riesgos,* CNGR); 4. National Commission on Human Settlements, Infrastructure and Social Tooling (*Comisión Nacional de Asentamientos Humanos, Infraestructura y Equipamiento Social*, CNAES); 5. Demography and Population Migrations (*Comisión de Demografía y Movimiento Poblacional*, CDMP); 6. Commission on Renewable and Non-Renewable Natural Resources, and Protected Areas (*Comisión de Recursos Naturales Renovables y No Renovables y de Áreas Protegidas,* CRNAP); 7. Natural and Cultural Heritage and Tourism Commission (*Comisión de Patrimonio Natural, Cultural y Turismo*, CPNCT).

Even though Honduras has been one of the Central American countries most affected by major natural disasters, it lags behind other nations in the region with regard to progress towards developing an effective legal and institutional framework for disaster risk management (DRM). However, during the last few years there has been an increasing debate on the need to reform and update the DRM framework and to kick off the development of the National Risk Management System (*Sistema Nacional de Gestión de Riesgos,* SINAGER).[39] The Government of Honduras (GoHN) responded by enacting Executive Accord 190-2006 that created a "High Level Technical Commission[40]", delegating in it the task of preparing a proposal for the "National Risk Management Plan", and the "National Risk Management System". Another important step taken by the GoH has been the establishment of a National Emergency Preparedness and Response Fund (*Fondo Nacional de Preparación y Respuesta a Emergencias*, FONAPRE). Executive Decree No.45-2009 of March 17, 2009 mandated the creation of such a fund as follows: "…As a very special fund, whose sole purpose will be the acquisition of goods and services of any kind needed for preparedness and proper response in cases of emergencies caused by intense natural phenomena and disasters caused by human actions. The Fund will be administered by COPECO through the National Commissioner who, through expedite procedures, proper of a critical situation, can access the Fund's resources to ensure rapid preparedness and humanitarian assistance actions of any kind aimed at mitigating potential damages, and to comply with the Government's obligation to respond to the affected populations in the shortest time and in the best way possible."

The structure of COPECO has been expanded to include the management of emergency prevention and preparedness activities. In addition to its central administrative areas and the

[39] *Concertación Regional de Gestión de Riesgos* (2007).

[40] *La Gaceta. República de Honduras. Sección A Acuerdos y Leyes. Acuerdo Ejecutivo No. 190-2006 de 27 de Septiembre del 2006.* No. 31,116.

prevention, preparedness and emergency response units, COPECO has seven regional offices. This organizational structure reflects the expansion of COPECO's responsibilities in the disaster risk management cycle.[41] With the support of the World Bank, COPECO is exploring new disaster management strategies that place greater emphasis on prevention and mitigation. A revision of the law that created COPECO has been proposed to expand its authority to explicitly articulate its authorities and responsibilities on prevention and mitigation[42], beyond its original responsibilities of emergency response. Under the new law, COPECO will have greater autonomy and authority.

The Government of Honduras, with the financial support of IADB, is implementing activities aimed at strengthening the country's DRM capacities, including performing pre-investment studies required for the preparation of an investment program to strengthen the SINAGER, including capacity building within the agencies and institutions that comprise the SINAGER, and by developing assessments of probable maximum losses (PML) as an input to the development of risk transfer mechanisms.[43]

In June 2009, IADB approved a loan to Honduras in the amount of US$75 million, over 10 years. The first disbursement of US$19 Million specifically targets strengthening of COPECO's DRM capabilities.[44]

The Government of Honduras signed the Central American Policy for Comprehensive Disaster Risk Management in June 2010. This legal agreement, adopted at the 35th Central American Integration System (SICA)'s Ordinary Meeting of Heads of State and Government, held in Panama, represents a major step towards mainstreaming DRM into the national development policies of the Central American nations.

[41] IADB (N. D.).
[42] Freeman et al. (2003).
[43] IADB (2010).
[44] IADB (2009c).

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 GoH recognizes the importance of developing an effective legal and institutional framework for DRM. As part of the government efforts to develop an effective DRM system, the Honduran legislature enacted the Law of National Contingencies (Law 9-90E) that mandated the creation of the Standing Commission of Contingencies (*Comisión Permanente de Contingencias*, COPECO). Since its inception, changes have been incorporated into the original text of the Law to ensure a better coordination among the diverse government and civic society organizations involved in DRM, as well as to encourage public participation at the municipal and community levels. DRM has been explicitly incorporated into the community development plans within the country's National Strategy for Poverty Reduction.

A comprehensive Law of Territorial Zoning was enacted and several committees have been created to support its implementation. COPECO is represented in the CONOT and is also a member of its executive body, the COET. In addition, the enactment of the Law of Forestry Development is also viewed by local experts as another step towards improving the country's legal and institutional framework for sustainably managing the nation's natural resource base. Honduras has also adopted a Social Protection policy aimed at providing special protection to children during emergency situations.

The Honduran delegation to the Mitch +5 Regional Forum[45] of 2003 in Tegucigalpa highlighted the country's achievements and challenges towards building the foundation for effective DRM in Honduras, and fulfilling the country's commitments within the Hyogo Framework for Action. The report indicated significant progress achieved in the following aspects:

i) DRM has been specifically addressed in sectoral plans and strategies.

ii) Some government agencies have established their own risk management programs.

iii) DRM has been included in the coordination and planning efforts of local governments.

iv) Some programs have been created, aimed at improving the management of the country's natural resources, addressing watershed issues, forests, vulnerable zones, and the environment.

v) Participatory methodologies have been developed for assessing land vocation mapping according to its vulnerabilities.

vi) Lessons learned are being incorporated into current projects and programs, as references for improving current and programs and projects.

vii) Important amendments have been incorporated into sectoral laws to better address and mainstream DRM activities and responsibilities.

Other advances include the creation of a National Health Plan for Disaster Reduction and Response; the issuance of a Policy for the Agro-Feeding and Rural Environment sector in Honduras; and the development of the Honduran Social Investment Fund's Strategic Plan for Contingencies.

HFA Priority #2: Disaster risk assessment and monitoring

The GoH has made important advances in developing the technical infrastructure for managing disaster risk information, including the elaboration of risk maps of an increasing number of jurisdictions across the country. These maps have been prepared by and with the input of government agencies, NGOs and the communities themselves. In this way, more complete and detailed information is available about the drivers and characteristics of vulnerability. To support the territorial zoning process, the National Territorial Information System (SINIT) is in the process of being implemented. The SINIT will maintain a baseline of biophysical and socioeconomic information and is the technological component of the Registry of Territorial Organization Norms (RENOT).

New educational materials are being developed and available to trainers for use in disaster risk awareness campaigns. New risk management plans are being developed at the local level, and DRM topics are being incorporated into graduate-level courses and technical training, including community forestry, ecology, and the environment. Also, DRM topics are being incorporated as components of impact assessments of road construction projects. Disaster mitigation measures have been incorporated into water and sanitation projects, and in the development of health and educational facilities, among others.

Since 1994, a number of institutions including COPECO, the Organization of American States (OAS), and the German Agency for Technical Cooperation (GTZ) have established community-

[45] UNDP and CEPREDENAC (2004).

based early warning systems along the watersheds that originate in the Nombre de Dios Mountain Range and drain into the Caribbean Sea. The data-gathering work is done by volunteers located in different places along the watersheds. Since 2003, early warning systems were developed in the Lean, Cangrejal, Perla and San Juan watersheds. The National Meteorological Service provides data on rainfall and COPECO provides technical support through its regional office, along with local volunteers and municipal officials responsible for early warning programs within their jurisdictions. The data gathered is relayed through a network of radio-transmitters that links all field stations along the watershed.[46]

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

COPECO develops and maintains two public awareness campaigns: "Prevention Is Living" and "COPECO Is Us All". Both campaigns have been very well received by the Honduran population.

DRM has been incorporated into the grade-school curriculum. Several organizations have developed supporting educational material for primary-school children.

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

Multiple inter-agency workshops at the community level have been organized to develop local preparedness and emergency response plans. Additionally, with the support of the governments of Germany, Japan, Spain, Sweden, and the United States, several projects for retrofitting the country's critical infrastructure have been implemented.

The GoH has implemented extensive campaigns against the destruction of forests, for reducing forest fires, and for the protection of water sources.

Legal reforms for urban and rural development have been introduced to improve the sustainable management of the country's territory and to facilitate enforcement of land zoning and building code regulations. The Law of Territorial Zoning (enacted in November 2003) and the Water and Sanitation Law (enacted in June 2003) are expected to play an important role in reducing exposure and vulnerability of the population by providing guidelines and the legal and institutional instruments to better manage the territory and water resources. The new Forestry Law is expected to also play an important role in this regard. Additionally, there is an increase in the number of institutional regulations that require the development of risk assessments (e.g. for road construction projects). A National Construction Code[47] is now available and several municipalities, including the Central District, are preparing or have already developed their Territorial Zoning and Urban Development regulations, setting aside areas considered off-limits for urban development, and incorporating the technical recommendations of the Honduran Construction Code.

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

Teams of Youth Volunteers, working for COPECO, the Red Cross, and firefighters are being established across the country to support

[46] UN ISDR (2004).
[47] Valladares et al. (2000).

disaster preparedness and response activities across the country.

An International and a Local Aid Coordinating Committee have been created to maximize the benefits of the humanitarian aid received by the country during emergency situations that may overwhelm the country's internal capacity to respond. There are also systems in place to assess the conditions of shelters across the country.

The National Action Plan for Combating Drought and Desertification was developed with input from residents of 76 highly vulnerable municipalities.

Local Disaster Preparedness and Response Committees across the country are being established and strengthened. COPECO also organizes and performs emergency response drills, with the involvement of multiple stakeholders from government agencies, international NGOs, and civil society organizations.

International aid organizations, including the United States Agency for International Development (USAID) are working on disaster mitigation through community-based interventions that emphasize environmental awareness at all levels of society. USAID provides training and technical assistance to COPECO for emergency communication systems, evacuation plans, and disaster preparedness. COPECO's national and regional emergency operation centers have received equipment and training. Municipal and local emergency committees also benefit from this capacity-building support.[48]

ADDITIONAL OBSERVATIONS

The Mitch+10, a Challenge After a Decade Regional Forum held in Guatemala during July 21–23, 2009, under the auspices of the Central American Integration System (SICA) and its regional technical disaster risk management body, CEPREDENAC, led to the analysis of and discussion on the economic, social and environmental causes of disaster risk, and DRM in Central America. The Regional Forum's main findings included the urgent need for promoting, in each country and across the region, integrated disaster risk management as an intrinsic component of the planning processes and public investment, as well as the need of reducing existing gender gaps by promoting equal opportunities through new social and institutional strategies.

Conclusions and Expected Tangible Outputs and Outcomes in DRM

Honduras is expanding its legal and institutional DRM framework and creating innovative structures that can empower the government and civil society organizations to deal with natural disasters, providing better disaster preparedness, response, and reconstruction capabilities at all levels of government administration and civil society. However, it is critical to ensure that mechanisms for effective coordination and complementariness are in place. In that regard, COPECO will need to continue improving its DRM internal capacity and leadership role in Honduras, among the multiple sectoral and geographic

[48] USAID (2009c).

government and civil society stakeholders, local and international, involved in DRM activities in Honduras.

Mainstreaming DRM among government agencies and the general public is still a priority. DRM is a complex endeavor that involves government and civil society participation. The government can provide the core financial and logistical support to the major components of preparedness, response and reconstruction, but still needs the support of the civil society organizations for addressing other aspects of the country's social fabric.

Along with strengthening COPECO by providing it the legal, financial, technical, and political support needed to transform it into the leading DRM institution in the country, an important component for achieving effective DRM in Honduras is the implementation of the National Risk Management System, and the need for such a system to become a priority within the government's agenda.

With the technical support of regional DRM organizations, particularly CEPREDENAC, and the financial and technical support of multilateral funding organizations such as the World Bank, the Inter-American Development Bank, and International Cooperation Agencies (ICAs) of developed countries, there is an opportunity to position DRM in the forefront of Honduras' sustainable development strategies.

KEY DONOR ENGAGEMENTS

Existing Projects with Donors and International Financial Institutions	UN, Donor, IFI Cooperation (where possible)	Allocated Budget (US$)	HFA Activity Area(s)[49]
Natural Disaster Mitigation – Additional Scale-Up Financing	World Bank	9 million 2007-ongoing	1, 2, 3, 4, 5
Forests and Rural Productivity	World Bank	32.7 million (WB funding: 20 million)	2, 4
Integrated Disaster Risk Management Program	Inter-American Development Bank (IADB)	75 million 2009	1, 2, 3 ,4, 5
Bay Islands Environmental Management	IADB	19,080,000 1995-2005	2, 4
Country Environmental Strategy	IADB	652,000 2000-2004	1, 4
Ecosystem Management of the Bay Islands	IADB	355,000 2002-2004	2, 4
Emergency Program. Flood Protection Work	IADB/ Spanish Fund for Consultants	EUR 366,618 1999-2002	2, 4, 5
Honduras Country Environmental Analysis	IADB	110,000 2005-2008	
Strengthening Disaster Risk Management System	IADB	1,100,000 (IADB funding: 1 million) 2008-ongoing	1, 2, 3, 4, 5
Support for the Modernization of National Environmental Impact Evaluation System	IADB	165,000 (IADB funding: 150,000) 2008-ongoing	1, 2, 4

[49] 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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